

Treatments and predictors of violent behaviour: the role of fantasy and schizotypal personality traits.

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I. Thesis Abstract

This research project primarily investigated the relationship between fantasy, schizotypal personality traits, psychological distress, criminal thinking styles and violent offending behaviour. A number of studies have explored the relationship between fantasy life and sexual offending, but few have investigated this in relation to non-sexual violence. This is the first of its kind to do so with a forensic sample, where violent behaviour is corroborated, rather than self-reported. Firstly a systematic review of the literature around the impact of psychological therapies on reducing violent behaviour was completed. Ten papers were identified and critically reviewed. The resulting synthesis of these studies indicated that psychological intervention, at least in the short term, can reduce violent behaviour. However, there was little evidence of a long-term impact of psychological therapies on reducing violent behaviour. The second part of the research project was a survey of 138 male prisoners which investigated the relationships between psychological distress, schizotypal personality traits and criminal thinking styles. In addition, differences in fantasy styles: negative, positive and narcissistic, and schizotypal personality according to level of violent behaviour were explored, as were differences in fantasy styles between criminal thinking style groups. Kendall's Tau-b correlation analyses, Kruskal-Wallis test and post hoc specific comparison tests indicated no significant differences in fantasy style scores between the violent behaviour groups or thinking style categories, but revealed that many of the variables explored were strongly correlated. The findings differed from those of a previous general population study, by finding that fantasy style did not differ according to level of violence, but provided new findings in terms of relationships between criminal thinking styles and fantasy style. In an area with little existing research this warrants further exploration.

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1. Thesis Introduction

Violent behaviour is not restricted to forensic environments. However these settings seem a sensible place to start, to try to better understand what drives and maintains this behaviour in a sample of relatively 'violent' individuals recruited for this research. The hope is that by increasing our understanding of the factors that make someone more likely to act violently, we are better equipped to put preventative and reductionist measures in place in order to minimise the number of victims affected by violence. This aligns with current thinking about violence, rather than simply assessing risk and managing it (Skeen & Monahan, 2011). By considering those individuals within forensic settings such as prisons, and secure psychiatric facilities, and those under the care of forensic clinicians within the community, there is the knowledge that one of the greatest predictors of violence that is past history of violence is present (Monahan *et al.*, 2001). Although individuals from this population are similar in terms of their restricted liberty, the characteristics within this population are in fact very diverse. Such a population can include men, women, adolescents, individuals with learning disabilities and those described as mentally disordered offenders (MDO's). This on the one hand makes generalising any findings challenging, but on the other provides an opportunity to consider a wide variety of potential risk factors influencing violent behaviour.

How patients are cared for within these different settings in Scotland is governed to an extent by The Mental Health (Care and Treatment)(Scotland) Act 2003 (The Scottish Government, 2005), which came into force in 2005. This act is underpinned by a number of principles; specifically the ten Millan principles which were highlighted in a report generated by the Millan Committee titled *New Directions* (Millan, 2001). These principles remain the basis of Scottish Government policy on mental health law, and provide a blueprint for how mental health law should work. While these principles may have limited relevance outside of Scotland they are relevant to this study. Both risk assessment and psychological and medical interventions, are integral parts of the Mental Health Act and are directly related to the Millan principles. Three of these principles are discussed here. The first of these, points towards the need for the patient to participate as much as possible in their assessment and treatment. The second is for there to be reciprocity in the treatment process; so the patient is obliged to engage with the process as much as the health service is expected to provide safe and appropriate services. Thirdly is the requirement for the use of the least restrictive alternative for patients requiring psychiatric care, which is directly related to the process of risk assessment. All of these principles must guide practice and suggest that assessment procedures and interventions must continually develop to meet the needs of the individual, and be done so in varying levels of secure environments and in different formats. This alludes to the need to have a flexible and responsive approach to risk assessment, and a suite of available interventions, ideally having been developed with the consideration of different psychological models.

The Council of European Prison Rules (Marcelo & Delgrande, 2006) stated that prison healthcare should be organised in close relation to the general health administration of the country, suggesting that policies set out by the National Health Service (NHS), should be mirrored within the prison service. However since then, things have progressed and in 2012 the NHS integrated with prison health services, and became responsible for the care of prisoners. Subsequently interventions offered to prisoners must adhere to the political ethos set out by the health and mental health legislation. Although this may suggest that the same mental health legislation would apply, prisoners remain detained under Criminal Justice rather than mental health legislation, and are viewed as prisoners rather than patients. Therefore the potential for conflict in terms of what the primary goal is for the patient and for the prisoner remains.

Intervention within the prison service is typically in the form of group treatment programmes targeting specific criminogenic needs such as: Sexual offending, violent offending, substance misuse and anger reduction programmes (Ministry of Justice, 2012a). However with the very complex population that the prison service has to cater for, continually developing and adapting such approaches is crucial. The aim of which is to offer prisoners the best opportunity to address their crime related needs, work towards a greater quality of life, and reassure the public of prisoners' readiness to be reintegrated back into society. These principles are highlighted by the Scottish Prison Service (SPS) mission statement defined as COCO; keep in Custody, maintain good Order, deliver Care with humanity and provide Opportunities to prepare for release (Scottish Prison Service Corporate Plan, 2012-15). Although working to ensure that prisoners are cared for in a humane manner, the priority within custody remains that of maintaining security and restriction.

The focus in terms of working with mentally disordered offenders (MDO's) within hospital settings in the UK is quite different from the SPS. The Forensic Mental Health Matrix (2011) is a guide to psychological therapies which are recommended for use with MDO's in Scotland, and was developed by the Forensic Network, which is made up of clinical and forensic clinical experts who work with MDO's in Scotland (Forensic Network, 2013). These recommendations guide practice in Scotland today; however, it is acknowledged that they have no bearing on how interventions are guided internationally. The Forensic Matrix takes a recovery focused stance, as seen with the '*On the Road to Recovery*' group intervention programme (Laithwaite, Cawthorn & MacLean, 2013). This initially focuses on identifying symptoms of mental illness and then empowering participants to take control of and manage these. Although just one example, this differs quite markedly from the focus of interventions within the prison service.

As has been noted, the differences in legislative responsibility and in treatment offered to psychiatric patients compared to prisoners is clear. However, the commonalities between the two groups may suggest that such a distinction is questionable. In 1998, an Office of National Statistics study noted

that 90% of all prisoners in England and Wales suffered from a mental disorder (Singleton, Meltzer, Gatwood, Coid & Deasy, 1998). The same study found that 76% of remand and sentenced male prisoners had a personality disorder. In addition, Farrell (2002) found that the incidence of psychosis is twenty times greater in the prison than in the general population, and finally research has also shown that incidences of self-harm increased from 2009-2010 to 7% amongst male prisoners (Ministry of Justice, 2012c). Hodgkin and Muller-Isberner's (2000) definition of an MDO as being an individual with a mental disorder, who has committed a criminal offence, could equally be applied to the prisoners described by Singleton *et al.* (1998) and Farrell (2002). This illustrates the blurred line between patient and prisoner. Penrose's law (1939) argues that there is an inverse relationship between the number of psychiatric hospital beds available and prisoner numbers; that is, the fewer hospital beds available, the greater the prison population. Although Penrose's law is clearly dated, more recent literature points towards the relevance that this law continues to have today. Kelly (2007) reviewed psychiatric census data and prison statistics in Ireland between 1963 and 2003, and found a five-fold reduction in psychiatric beds and a five-fold increase in prisoners during the same time period. As has been discussed, the health service now has responsibility for the care of prisoners; however, the security mission statement of the prison service is still in conflict with the mental health considerations more familiar to the health service. However like any shift in responsibility, it will take time for this transition to become as clear and functional as possible. This overlap between psychiatric and forensic populations does however suggest that research carried out exclusively with one population will have relevance for the other.

Currently the dominant framework of intervention targeting criminogenic needs is Cognitive Behavioural Therapy (CBT) (Andrews & Bonta, 2003). However, alternative therapies are being increasingly implemented within clinical forensic settings. The efficacy of interventions targeting violence specifically is not known. There is literature around interventions to prevent or reduce violence amongst adolescent populations or those with learning disabilities; although little conclusive evidence is readily available regarding the efficacy of interventions targeting violence amongst adults convicted of violent offences (The Forensic Mental Health Matrix, 2011). Critically reviewing the existing literature will allow for a better understanding of what interventions are most effective, and may also highlight areas which require further research. A systematic review, critically appraising literature identified in the area of psychological interventions for reducing violence, can be found in Chapter 2. This review highlights the limited success of existing interventions, and although provides an optimistic picture of violence reduction, it fails to provide convincing evidence for long lasting avoidance of violence following completion of such interventions.

In order for future risk of violence to be effectively managed and treated, a thorough risk assessment is required. Risk assessment has evolved from focusing on the review of file information, to considering collateral sources, and moving from being conducted by a single professional, to being

determined by multi-professional teams. Risk assessment has historically focussed on factors which are considered to make the individual more likely to commit an offence (e.g. Risk Matrix 2000; Thornton, 2007). However, more recently, focus is moving to include 'protective' factors, i.e. those that make it less likely that the individual will commit a specified offence (e.g. Structured Assessment of Protective Factors for Violence Risk (SAPROF), de Vogel *et al.*, 2007). Risk assessments have also moved away from a categorical model of risk and take a more dynamic approach to working with and managing risk (e.g. HCR-20, Webster *et al.*, 1997). This is examined more critically in Chapter 3.

Many factors have been considered to some extent and at times in isolation from one another, in terms of their relationship with violent behaviour, for example in the large scale 'MacArthur Violent Risk Assessment Study' (Monahan *et al.*, 2001). This study recruited 1136 participants across two sites in North America who had been committed to psychiatric facilities, and who had a diagnosis of a thought disorder, affective disorder, substance misuse or personality disorder. The participants along with relevant informants were interviewed twice over a 20 week period following discharge. This information along with relevant file data was used to investigate the relationship between mental disorder and violence amongst this population. The study then aimed to develop an actuarial assessment tool reflective of these findings. However, although often mentioned in studies exploring sexual violence (Prentky *et al.* 1989; Smith; Basile & Karch, 2011), the relationship between fantasy and violence is relatively under-researched. One may assume an association, but there is surprisingly little evidence to support this, particularly within a 'mainstream' violent population, i.e. those behaviours which are not sexually motivated. The few studies that have looked at fantasy and violence have tended to focus on sexual violence or have recruited from non-forensic samples who have self-reported violence. Less research literature is available in terms of the role fantasy plays in violent behaviour, with those who have actual convictions of violence. Chapter 3 describes an original empirical study with a forensic adult male population. The study explores the psychological correlates of violence and goes some way to providing tangible evidence to satisfactorily answer the question of, '*what factors contribute to people behaving violently?*' The findings are considered with the relevant mental health act and underlying principles in terms of implications for risk assessment and psychological interventions. The overall conclusions, strengths and limitations as well as possible recommendations for future research are similarly discussed in this final chapter.

2. Systematic Review

The impact of psychological therapies on violent behaviour in clinical and forensic settings: A systematic review.

Submitted to Aggression and Violent Behavior (Impact Factor 1.949; Criminology and Penology category - ranking 7/50 Q1 and in Psychology and Multidisciplinary category – ranking 27/125 Q1 as of 2011). See Appendix A for author guidelines.

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2.1. Abstract

Violent behaviour is a serious problem in terms of the impact on victims, quality of life for perpetrators, and the financial burden on the prison service, the health sector and society generally. However, to date there is not a general consensus as to how this can be managed other than removing the perpetrators from communities. Incarceration can be on an indeterminate basis or for a short period of time before reintegration into society, depending on the gravity of the offence. This systematic review critically examines the existing research literature on psychotherapeutic interventions for violent behaviour in forensic and clinical populations. Five databases were searched, selected journals were hand searched, and authors of identified papers were contacted in efforts to obtain relevant unpublished work. The first author and a colleague independently evaluated the eligibility of all studies identified, abstracted data and assessed study quality. The overall findings provide tentative support for the utility of psychotherapeutic interventions, in reducing aggressive behaviour in forensic and psychiatric patients with a history of violent behaviour.

Key Words

Violence, psychotherapeutic interventions, Cognitive Behavior Therapy.

2.2. Highlights

- We review existing psychological therapies delivered to reduce violent behaviour
- We summarise the strength of the different papers identified
- Evidence supports use of psychological therapies in reducing violence
- Longevity of reduction in violence remains unclear

2.3. Introduction

2.3.1. *Who is affected?*

Violent behaviour, and its management, is costly to prison services, health care providers and communities (Harvey, Williams & Donnelly, 2012). With an increasing number of individuals being incarcerated or detained, the perpetrators of violence are removed from communities; however, the majority are released and reintegrated to society after a period of 'rehabilitation'. According to the Bureau of Justice Statistics (BJS); the rate of violent victimisations in the United States (USA) increased by 17% between 2010 and 2011 from 19.3 to 22.5 victimisations per 1,000 persons aged 12 years or older. Although the 17% increase seems large, the actual change between 2010 and 2011 (3.3 per 1,000) is below the average annual change in rates for the past two decades (Truman & Planty, 2012). Despite this, the figures inevitably add to the USA correctional population of 6.98 million at yearend of 2011 (Graze & Parks, 2012). In the United Kingdom (UK), the Crime Survey of England and Wales (2011) found a 6% decrease in crimes against adults recorded by the police, by the yearend in June 2012 compared with the previous year (National Institute of Justice, June 2012). A separate survey in Scotland found a reduction in homicides from 2011 to 2012 by around 11% (Scottish Crime & Justice Survey 2012). However greater attention has been paid to violent behaviour following the London Riots in the summer of 2011, with many of these perpetrators adding to the prison population of approximately 95,000 in the UK (Ministry of Justice, 2012b; Scottish Prison Service, 2011). Although figures increased in the USA, the increase is lower than that seen in previous years. This along with the encouraging figures in the UK of a falling trend is promising; however, focus on trying to further reduce such episodes remains a priority in terms of reducing the cost of violent crime to all those involved. With high numbers of people in prison it seems sensible to consider the incarcerated population as one to target in terms of reducing violence. In addition, in the UK some of the perpetrators of violence are detained in secure hospitals or managed in the community rather than incarcerated in prison. Although the aetiology of their violent behaviour may be more complicated by a mental disorder, many of these individuals are discharged back into the community; therefore, intervening in these clinical settings, also seems sensible in terms of actively trying to reduce levels of violence.

The change in prison milieu from punitive to rehabilitative has led to increasing numbers of psychological intervention programmes targeting criminogenic needs; such as substance misuse, controlling aggression and anger and addressing sexually violent behaviour (Ministry of Justice, 2012b), and recidivism programs involving vocational training, drug programmes and cognitive therapies in USA correctional facilities (National Institute of Justice, 2012). The programme with the greatest vested public interest is that addressing violence. However the actual efficacy of such programmes is thus far unclear.

Rates of violent recidivism appear to be lower within the forensic psychiatric population (6-15%, Yoshikawa et al., 2007; Maden, Scott, Burnett, Lewis & Skapinakis, 2004) compared with the non-mentally disordered prison population (Nilsson, Wallinius, Gustavson, Anckarsater & Kerekes, 2011). None the less there is a well-documented association between violence and mental illness as demonstrated by Applebaum, Robbins and Monahan (2000) in the MacArthur Risk Assessment studies. They examined violence among mentally disordered offenders (MDO's) after discharge into the community, and found a significantly elevated risk of violence compared with the general population. The mental disorders included substance misuse, bipolar disorder, schizophrenia and other psychotic disorders. When specifically looking at diagnoses, schizophrenia was suggestive of being the least violent; however Walsh, Buchanan and Fahy (2002), in a review of the literature, concluded that the findings were overwhelmingly in favour of an increased risk of violent behaviour amongst those with a diagnosis of schizophrenia. Fazel and Grann (2006) later found that most of the risk for violence associated with schizophrenia and other psychoses was mediated by co-morbid substance misuse. Whether the violence is associated with the mental illness alone, or whether additional confounding psychosocial factors are required, it seems that in order to effectively reduce rates of violence, intervention needs to be targeted not only at those within the prison service but also those being cared for in secure hospitals.

2.3.2. Complexity of violent behaviour

Violent behaviour is being increasingly investigated with the aim of obtaining greater understanding about what drives individuals to act violently, and exploration around the subtle nuances which may underpin or influence violent behaviour. Neller, Denney, Pietz, and Thomlinson (2006) found 94% of their modestly sized sample of prisoners (n=94) reported a history of some form of trauma, and that 67% of this sample self-reported episodes of violence following the trauma. Although there are clear limitations in this information being obtained via self-report, it does suggest the importance of prior life experiences in potentially shaping violent behaviour. The cognitions around violent behaviour, specifically offence supportive cognitions have been explored by Polaschek, Calvert, and Gannon (2009). These authors have made a distinction between reactive and instrumental violence; the former being impulsive and the latter referring to premeditated, considered acts of violence. Although this distinction is not unanimously accepted it has been made and discussed by numerous researchers (Tuvbald, Raine, Zhong, & Baker (2009); Fite, Raine, Strouthamer-Loeber, Loeber & Pardini, 2010). Tapscott, Hancock and Hoaken (2012) reviewed files of 71 violent prisoners to investigate whether violence could reasonably be categorised into reactive or instrumental, and found that 79% of the sample could be differentiated into one or other category. This highlights not only the multifaceted nature of violence but also how it is broken down in attempts to better understand its overall concept.

Effective interventions are likely to be more successfully developed with greater understanding of this concept and an awareness of the function that violence serves for the individual.

2.3.3. Types of Psychotherapeutic Interventions

Many programmes of rehabilitation or intervention are structured around what would broadly be described as ‘talking therapies’ or ‘psychological interventions’, which use a variety of psychological models to inform their development. Shedler’s (2010) review of psychodynamic psychotherapeutic approaches indicated that the use of psychological techniques generally leads to continued progress following programme completion or epistolary learning. Although this review was not in relation to violent behaviour as a specific target for intervention, it points towards the efficacy of psychological interventions generally, and suggests that it is better to include them than not to. There are many different approaches to using talking therapies in the reduction of violence and aggression. The cognitive behavioural model is dominant in the rehabilitation of offenders generally (Polaschek, Wilson, Townsend & Daly, 2005) and problematic or distorted cognitions are described by Andrews and Bonta (2003) as one of the “big four” criminogenic targets of intervention. Landenberger and Lipsey (2005) carried out a meta-analysis of cognitive behavioural approaches, and found them to be most effective with higher risk individuals. Such programmes use elements of problem solving, victim impact/empathy, anger control and behaviour modification. However less ‘mainstream’ programmes are being developed, such as the behavioural programme reported by Minnaar (2010), called “Silence the Violence” which is being tested in South Africa and the UK and is based on vicarious modelling behaviour. Other approaches include community programs based on ‘collective efficacy’ (Sabol, Coulton & Korbin, 2004), Aggression Replacement Therapy (Hornsveld, Nijam, Hollin & Kraaimaat, 2007) and Social Activity Therapy (Blacker, Watson & Beech, 2008). These psychological models of intervention are grounded in behavioural or cognitive-behavioural principles generally, although they differ in terms of structure and delivery.

With so many approaches having been developed, it is difficult to determine how effective psychological interventions are at reducing violent behaviour. Andrews and Bonta (2003) have described the efficacy of cognitive behavioural interventions at addressing dynamic criminogenic needs; however, they do not specifically refer to reduction in violence as a key outcome. A systematic review of the literature of such interventions and their outcomes would provide a critical appraisal of the evidence for their effectiveness at reducing violent behaviour in forensic and clinical populations.

2.4. Aims of the review

The overarching aim of this review was to explore the impact that psychological therapies have on violent behaviour in clinical or forensic settings.

2.5. Inclusion and Exclusion Criteria

2.5.1. Population

Studies included were based solely on adult participants (over the age of 16) with a history or current presentation, of violent behaviour, regardless of their gender or nationality. Studies were included from prison samples, those detained in hospital and described as forensic in-patients, and also forensic out-patients that were being managed in the community. Studies which included participants whose primary reason for detainment or incarceration was perpetration of a sexual offence or domestic violence were excluded, as were studies whose participants had a learning disability (LD). This review was interested in collating the information available for interventions targeting 'mainstream' violence; that is all physical violence without a sexual component, as it is likely that interventions targeting sexual or intimate partner violence will have a different focus and will be addressing issues around sexual deviancy and intimate relationships. It is also likely that interventions would need to be adapted for use with an LD population. The definition of violence adopted for the purposes of this review is "*actual, attempted or threatened physical harm that is deliberate and non-consenting*" (HCR-20, Webster, Douglas, Eves & Hart 1997).

2.5.2. Interventions

Included studies used any form of psychological intervention; including but not restricted to Cognitive Behavioural Therapy (CBT), Cognitive Therapy (CT) and Behaviour Therapy (BT).

2.5.3 Outcome measures

Studies were included that used both psychometric outcome measures and reporting of violent incidences. Studies which did not refer to the use of any measures of outcome, or where relapse data were to be presented separately, were excluded.

2.5.4. Study Design

Randomised Control Trials (RCTs) and other controlled trials were included, as were cohort studies and case series. The latter were considered potentially useful in terms of the qualitative utility of such studies, in spite of the high potential for bias due to the limited number of participants. Single case studies were however excluded due to the difficulty of generalising findings, and the heightened potential of confounding variables accounting for change.

2.6. Literature search strategy

Literature searches took place in November 2012 and involved database searching, hand searching of selected journals and contacting authors that may have had knowledge of relevant unpublished papers. The Cochrane Database of Abstracts of Reviews of Effects (DARE) was searched to verify that a similar review had not recently been conducted. The same broad search terms described below were used to search within the Cochrane Database, which revealed 3 reviews which are of relevance. The first, although investigating psychological therapies and aggressive behaviour, was specifically in relation to a population with learning disabilities (Hassiotis & Hall, 2009). The second reviewed the effectiveness of CBT for aggressive behaviour, but was specifically in relation to men who perpetrate intimate partner violence (Smedsland, Dalsbo, Steiro, Winsvold & Clench-Aas, 2007). The final paper examined the impact of psychological interventions and anti-social personality disorder (ASPD, Gibbon et al., 2009). This third paper did not explicitly examine violence but more generally rule breaking, general criminality and substance misuse.

The following databases were searched between the 24th and the 26th of November 2012. Each database was searched from its start date to the date of searching. The subject headings/terms or descriptors specific to each database were determined using the thesaurus function and therefore differed across each database.

PsycINFO (1987 – November 2012; “Violence” OR “Aggressive behaviour” AND “Cognitive behaviour therapy” OR “intervention”), Embase (1980 – November 2012; “Violence” OR “Aggression” AND “Cognitive Therapy” OR “Psychotherapy”), ASSIA (1987-November 2012; “Violence” OR “Aggression” AND “Cognitive therapy” OR “Psychotherapy”), Medline (1966 – November 2012; “Violence” OR “Aggression” AND “Psychological techniques” OR “Cognitive Behaviour Therapy”), CINAHL (1937-November 2012; “violence” OR “aggression” AND “Cognitive therapy” OR “Behaviour therapy” OR “Psychological Techniques”), Science Direct (1995 – November 2012; “Violence” OR “Aggression” AND “Cognitive Therapy” OR “Psychotherapy”).

The search of the six databases yielded 1684 articles, which following de-duplication left 1570. Of these 1570, 1522 were excluded during a review of the titles, and a further 40 were found not to meet the inclusion criteria on reading the abstract (see *Appendix C* for further details) leaving a total of 8 papers to include in the systematic review (see *Figure 2.1*). In addition, three relevant journals were hand searched from 2004- November 2012. These dates were chosen as the national policy on violence reduction was introduced to the UK in 2004 under the prison service order (PSO) 2750, making it mandatory for every public sector prison to have in place a local violence reduction strategy. Two additional papers were found using this method of searching (see *Figure 2.1*).

Finally first authors of nine of the ten chosen papers were contacted. All responded, and although none were aware of any unpublished research, two of the authors signposted to relevant research projects; however, neither led to material which could be used within the confines of the inclusion criteria for this review.

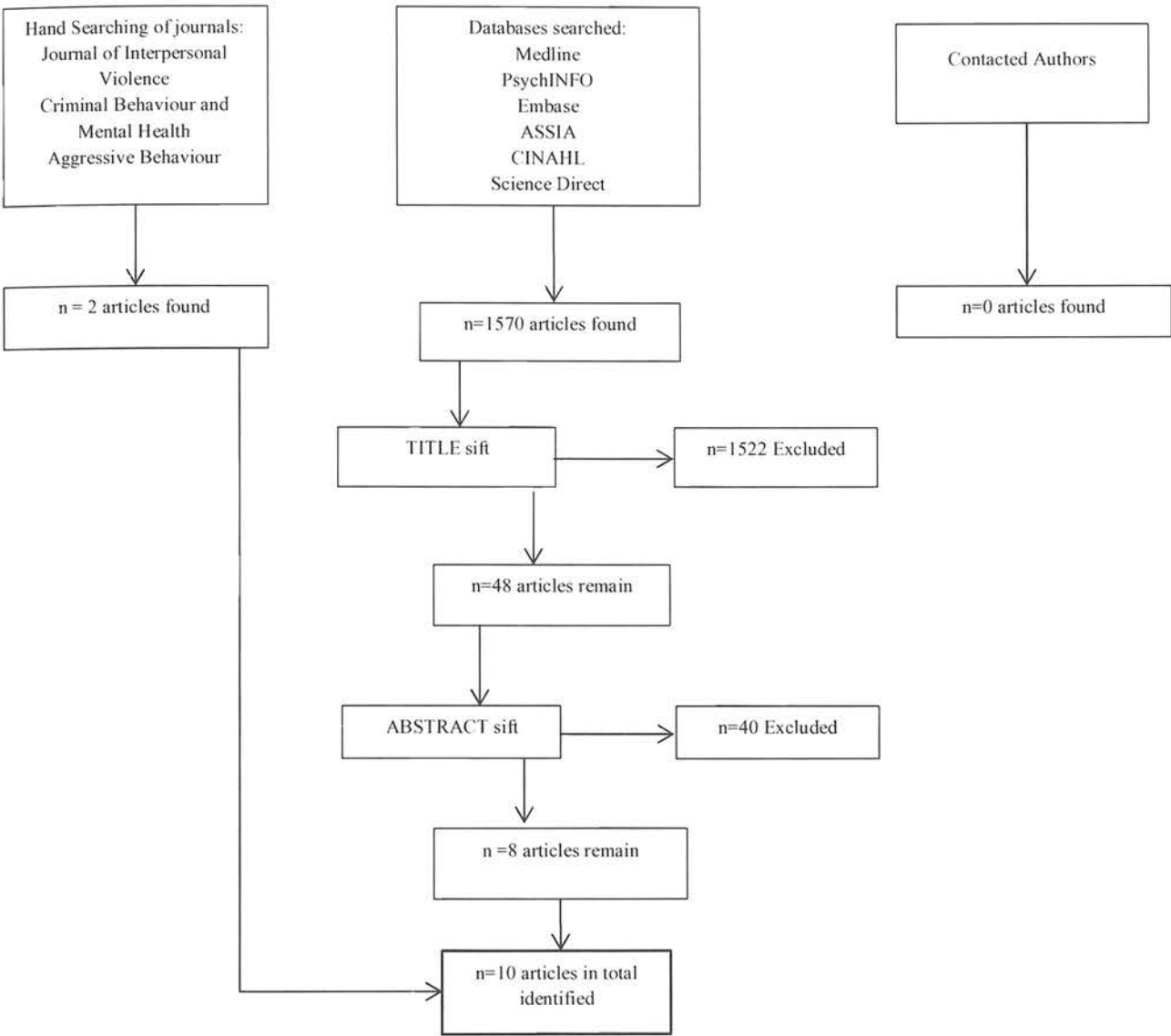


Figure 2.1 – Flow chart illustrating the search process.

See Appendix C for flow charts illustrating the search process for each of the six databases.

2.7. Assessment of quality of included studies

Centre for Research and Disseminations (CRD), part of the National Institute for Health Research, has published internationally accepted guidelines for completing systematic reviews in healthcare settings (CRD, 2008) and suggests that the following areas should be assessed to rate the quality of the paper: Appropriateness of study design to the research objective, risk of bias, other issues related

to study quality, choice of outcome measure, statistical issues, quality of reporting, quality of the intervention and generalisability.

The CRD document, along with the TREND statement providing information on improving the quality of nonrandomised evaluations (Des Jarlais, Lyles & Crepaz, 2004), and the CONSORT statement providing guidance on reviewing randomised trials (Schulz, Altman & Moyer, 2010), were used to guide the development of quality criteria, ensuring that all recommended areas of assessment were incorporated whilst tailoring the criteria to the field of interest. A total of twelve quality criteria were developed and used to assess the nine identified papers. Each criterion was scored accordingly: *Well Covered*=3, *Adequately Addressed*=2, *Poorly Addressed*=1, *Not Addressed*=0, *Not Reported*=0 and *Not Applicable*=0 and a total score was calculated for each paper. See Appendix B for a full table of the criteria. A second marker was recruited in order to ensure inter-rater reliability; 5 papers were independently reviewed, 50% of the sample, resulted in a Kappa co-efficient for overall agreement of 0.78, indicating adequate inter-rater agreement (Randolph, 2008). All criteria with differences between raters were reviewed and amended where appropriate.

2.8. Results

2.8.1. Characteristics of included studies

Table 2.1 summaries the 10 studies identified. Due to their heterogeneous nature, a narrative synthesis is presented rather than a meta-synthesis.

Two studies were randomised control trials (Davidson et al., 2009; Haddock et al., 2009). Six were pre and post intervention studies (Blacker, Watson & Beech, 2008; Hornsveld, Nijman, Hollin & Kraaimaat, 2007; Wilson, Barton & Maguire, 2011, Polaschek, Wilson, Townsend & Daly, 2005; Polaschek, 2010; Reiss, Quayle, Brett & Meux, 1998) and two were a case series design (Haddock, Lowens, Brosnan, Barrowclough & Novaco, 2004; Tew, Dixon, Harkins & Bennett, 2012).

Table 2.1 – Summary of included studies

Author, Country, Year	Number of participants	Participants	Intervention	Outcome Measures	Main Findings	Database
Davidson et al.(2009) UK	52 (male) 25-CBT 27-TAU	Referrals from CMHT's, forensic psychology and psychiatry services. Diagnosis of ASPD.	RCT – Individual CBT	MCVSI – aggression and offending DAST – drugs AUDIT-alcohol HADS- anxiety and depression NAS-PI – Anger SFQ- social functioning BCSS- evaluation of self and others	Trends in the data, in favour of CBT, were noted for problematic drinking, social functioning and beliefs about others. CBT did not improve outcomes more than usual treatment for men with ASPD who are aggressive and living in the community.	Medline
Haddock et al.(2009) UK	71 (66 male, 11 female) 38-CBT 39-SAT	Inpatient, outpatient and secure with diagnosis of schizophrenia and history of violence	RCT- Individual CBT vs. SAT(social activity therapy)	WARS – Data were collected on eight aggression and violence variables taken from WARS. NAS-PI PANSS PSYRATS – psychotic symptoms	Significant benefits were found for CBT, fewer incidents of physical aggression during follow-up period within CBT vs. SAT group.	PsycINFO
Blacker et al. (2008) UK	62 (male)	Male prisoners	Drama based CBT approach called 'Insult to Injury'	Level of anger measured pre and post course – related to violent offenders using the STAXI-2.	Significant reductions in anger were found pre- and post- intervention in the group of violent offenders.	Hand Search of Criminal Behaviour and Mental Health (19.11.12).
Hornsvelt et al. (2007) The Netherlands	418 began and 290 completed (male)	Forensic inpatients and outpatients	Aggression control therapy based on Aggression replacement training (ART) which is inspired by social learning theory.	Measures developed: Measure of hostility Measure of aggression and social behaviour	Aggression control therapy shown to reduce levels of aggression amongst forensic patients. However results show the therapy is especially beneficial for those with a low psychopathy score.	CINAHL
Haddock et al. (2004) UK	3 CASE SERIES	Psychiatric in-patient	CBT	PANSS NAS-PI PSYRATS WARS – violent or aggressive acts	Individually tailored CBT was found to reduce anger and physical aggression in all three cases post treatment, however this was not maintained at follow up.	EMBASE
Wilson et al. (2011) UK	12	Psychiatric Inpatients	CBT informed anger management	Pre and post data gathered re: demographic info and incidences of violence or aggression.	There was a statistically significant reduction in the frequency of violent and aggressive incidents instigated by these patients in the two week period post intervention compared to the two weeks prior.	CINAHL
Polaschek et al. (2005) New Zealand	22	High risk violent prisoners	CBT group to reduce violence	Rates of recidivism were measured 2 years post intervention compared with those who had not completed the intervention.	In comparison with untreated offenders, treated men were less likely to be reconvicted of a violent offence, and those who took longer to fail. There was also a 12% difference in favour	CINAHL

					of the treated men on the two other indices, nonviolent reconviction and re-imprisonment.	
Polaschek (2010) New Zealand	112	High risk violent offenders	CBT intervention group	Rates of reconviction were measured 3.5 years post intervention compared with non-treated group.	10-12% fewer men who completed the programme were reconvicted of violence.	CINAHL
Reiss et al.(1998)	12	Mentally disordered offenders	Dramatherapy – psychodynamic	STAXI and specifically developed anger inventory.	Reduction in self-reported anger at follow up. Mixture of significant and non-significant reduction in anger according to the STAXI.	PsycINFO
Tew et al. (2012) UK	5 case series.	Psychopathic violent offenders	Chromis Programme: Motivation and engagement, good lives model and schema therapy.	Multiple case study design	NAS-PI Behavioural and arousal measures Institutional behaviour – verbal and physical aggression.	Hand Search of Criminal Behaviour and Mental Health (19.11.12).

SOAS-R – Staff Observation Aggression Scale (Nijman et al. 1999).
 MCVSI – MacArthur Community Violence Screening Instrument (MCVSI; Steadman et al. 1998, 2000); WARS – Ward Anger Rating (Novaco, 1994); PSYRATS – Psychotic Symptom Rating Scales (Haddock, McCarron, Tarrier, & Faragher, 1999); NAS-PI – Novaco Anger Scale and Provocation Inventory (Novaco, 2003); PANSS – Positive and Negative Syndrome Schedule (Kay, Opler, & Lindenmayer, 1989); DAST – Drug Abuse Screening Test (DAST; Skinner, 1982); AUDIT- Alcohol Use Disorders Identification Test (Saunders et al., 1993); HADS- Hospital Anxiety and Depression Rating Scale (Zigmond & Snaith, 1983); SFQ- Social Functioning Questionnaire (Tyrer et al.,2005); BCSS- evaluation of self and others: Brief Core Schema Scales (Fowler et al., 2006); STAXI-2 – State-Trait Anger Expression Inventory-2 (Spielberger, 1999).

See Appendix D for a table of the excluded studies and the reasons for these exclusions.

2.8.2. Summary of results – the impact of psychological therapies on reducing violence

2.8.2.1. Randomised Control Trials

Haddock et al. (2009) showed CBT to be superior in reducing incidences of aggression over the treatment and follow up period compared with SAT, with their sample of treatment resistant schizophrenic patients with a history of violence. They also found that those in the CBT group had a reduced level of risk, compared with the SAT who had more participants in the ‘no change’ category. However, there were no significant changes in terms of anger when measured post intervention, in either the SAT or CBT groups. Davidson et al. (2009) in contrast did not find any differences in the outcome measures between the groups allocated to TAU and CBT, with incidences of verbal and physical aggression declining in both groups over the twelve month follow up period. Although both studies opted for an RCT design, their populations differed, with the latter including violent men with ASPD. Davidson et al.(2009) showed less harmful drinking in the CBT compared with TAU group at follow up, along with improved social functioning and beliefs about self and others, which is likely to represent similar findings to Haddock et al.’s (2009) report that overall level of risk was reduced following intervention.

2.8.2.2. Pre and Post Intervention Studies

Polaschek et al. (2005) described the outcome of 22 violent male prisoners following a CBT oriented group intervention programme, with outcome measured in terms of recidivism and were matched with violent offenders who had not completed the intervention. There were no significant differences found between the treated and untreated groups in terms of number who went on to obtain non-violent reconvictions. However 32% of the treated group compared to 63% of the untreated group committed a violent offence, showing a significant difference in violence failure between the two groups. Polaschek (2010), in their larger scale replication study, similarly found a small reduction in reconviction at follow up, in favour of the CBT group, with 12% fewer treatment completers being reconvicted for any offence. In contrast to the initial trial, they found a small positive effect of treatment completion on the risk of any reconviction and of violence reconviction, but ultimately treatment completers were no less likely to return to prison for a violent offence than those who had not engaged in treatment. In addition they found a small difference between groups in terms of length of time abstained before reoffending, with the untreated comparison group tending to reoffend more quickly, however, this finding did not reach significance.

Blacker et al. (2008) described outcomes from a drama-based intervention programme called 'Insult to Injury'. This was used with a group of violent prisoners with the aim of reducing levels of anger and associated aggression, grounded in cognitive-behavioural principles. Reductions across all subscales of anger, including expression of anger were significantly reduced following completion of the programme. Similar to Blacker et al. (2008), Reiss et al. (1998) implemented a drama-therapy trial, described as a flexible form of psychodynamic psychotherapy. This was trialled over two days with mentally disordered offenders across three high secure hospitals, with the aim of reducing levels of anger, and improving response to anger provoking situations. In spite of the differences in terms of models underpinning the interventions and the population recruited, the findings were similar, indicating significant reductions in self-reported anger at 3 months follow-up and reductions across the anger scales within the STAXI, some of which reached significance and was seen at the three month follow up.

Wilson et al. (2011) described a brief two session, CBT based group intervention with 12 patients on a psychiatric ward with a history of anger and violence. The results showed a significant reduction in incidences of violence post intervention compared with pre intervention. As with the Polaschek trials this paper refers to outcome following CBT based group intervention, and similarly found a reduction in violence. However the population differed compared with all of the other pre and post intervention studies, with Wilson et al. (2011) having recruited a purely clinical sample. Finally Hornveld et al. (2007) reported the findings from an Aggression Control Therapy oriented intervention programme, derived from Aggression Replacement Therapy (ART), and founded in social learning theory. They

developed two new measures of outcome, namely one for measuring hostility and an observation scale for the measurement of aggression. Like the Polaschek trials, Blacker et al. (2008) and Wilson et al. (2011) studies, findings showed that of the 170 forensic psychiatric inpatients and the 248 forensic psychiatric outpatients, the intervention led to a reduction in violent behaviour to some extent. However, they acknowledged limitations in the generalisability of these findings by noting that the greatest reductions in the future would be amongst those with low psychopathy scores.

2.8.2.3. Case Series

Tew et al. (2012) described a multiple case study of five male prisoners whose psychopathic personality traits disrupt their ability to engage in treatment. The paper explores how these individuals engage in the 'Chromis' group programme aimed at reducing violence amongst those with such complicating personality traits. The programme is delivered using a combination of individual and group sessions, and involves elements of motivational interviewing, cognitive skills training and cognitive schema therapy. Outcomes were measured by self-reporting of anger and recording of physical aggression in the institution. A reduction in self-reported anger and expected incidences of physical aggression were observed, although a higher than expected incidence of verbal aggression following programme completion was also found. Haddock et al. (2004) described a multiple case study, however, they reviewed fewer participants and reported a different population; three patients within a low secure hospital. The intervention involved one to one CBT based intervention for those with co-existing problems with psychosis and aggression, by embedding CBT for psychosis within CBT for anger. The findings were generally similar to those of Tew et al. (2012) and showed a reduction in self-reported and independently reported levels of anger, and in addition showed a reduction in psychotic symptoms and levels of distress. However by examining each case study, the self-reported anger reduced in all cases, the independently reported anger reduced in two of the three cases but in these cases, rose again after therapy ended. The difference in overall outcome of anger may be explained by the fact that unlike Haddock et al. (2004), Tew et al. (2012) did not measure outcome at a follow up point, rather based the findings on post intervention alone.

2.8.3. Summary across all studies

Although the studies used different designs and the populations varied along with length of follow up period, overall the majority of the studies demonstrated reductions in aggression following some kind of psychotherapeutic intervention. The longevity of such reductions is not demonstrated by these findings. It is however difficult to identify what factors within the different interventions led to the reductions in violence observed. This presents a difficulty in terms of generalising findings across settings and for clinicians to use results to inform practice.

2.8.4. *Quality of included studies*

Table 2.2 provides ratings for each of the studies on the twelve quality criteria. While the rating scale adopted does not provide an exact comparative measure across studies, it offers a guide to their relative methodological strengths. It suggests that Haddock et al. (2009) and Davidson et al. (2009) conducted the methodologically strongest studies, while the majority of reviewed studies were of similar quality overall.

Table 2.2 – Ratings of study for included studies

Quality Criteria													
	Randomisation	Allocation	Attrition	Outcome Measures	Measure relevance	Power	Analysis	Reporting – TREND/ CONSORT	Intervention definition	Fidelity	Routine	Follow up	Overall 'score' (36)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
Haddock et al.(2009)	WC	WC	WC	WC	WC	NR	WC	WC	WC	WC	WC	WC	33
Davidson et al.(2009)	WC	WC	WC	AA	AA	NR	WC	WC	WC	WC	WC	WC	31
Polaschek 2010	NA	NA	WC	PA	WC	NR	WC	AA	WC	WC	WC	WC	24
Tew et al. (2012)	NA	NA	WC	WC	WC	NR	AA	AA	AA	AA	WC	AA	22
Blacker et al. (2008)	NA	NA	NR	AA	WC	NR	AA	AA	WC	WC	WC	WC	21
Reiss et al. (1998)	NA	NA	WC	AA	AA	NR	WC	WC	AA	NR	AA	WC	20
Haddock et al. 2004)	NA	NA	NA	WC	WC	NR	PA	NA	WC	WC	WC	WC	19
Polaschek et al. (2005)	NA	NA	NR	PA	WC	NR	WC	NA	AA	WC	WC	WC	18
Wilson et al. (2011)	NA	NA	NR	AA	WC	NR	AA	AA	WC	WC	WC	NR	18
Hornveld et al. (2007)	NA	NA	WC	PA	AA	NR	NA	PA	WC	WC	AA	WC	18

1. Patients were randomly allocated and this process was sufficiently concealed

2. Participants, facilitators etc. were blind to the allocation
3. Attrition rates were reported
4. Outcome measures of violence and anger are valid, reliable and standardised
5. Outcome is relevant and meaningful to the intervention and the evaluation
6. Study is adequately powered to detect the effect of the intervention
7. Appropriate analysis for outcome measures used and p values, confidence intervals and effect sizes reported where appropriate
8. The TREND and CONSORT statement guidelines for reporting have been adhered to in the RCT's and non-randomised trials.
9. The intervention has been appropriately defined
10. Intervention was delivered as planned (good fidelity)
11. Intervention has been implemented in a way that would be considered 'routine practice'
12. Follow up evaluation undertaken.

2.9. Discussion

2.9.1 General findings

Eight of the ten studies (Haddock et al., 2009, Blacker et al., 2008, Hornsveld et al., 2007, Wilson et al., 2011, Polaschek et al., 2005, Polaschek, 2010, Haddock et al., 2004, Tew et al., 2012) demonstrated reductions in physical aggression following intervention, suggesting that the interventions had a positive effect on violence. These findings were, however, tentative as some referred only to pre and post intervention outcomes (Wilson et al., 2011, Tew et al., 2012, Blacker et al., 2008, Reiss et al., 1998) or short term follow-up (Haddock et al., 2004, Hornsveld et al., 2007). In their case series, Haddock et al. (2004) found reduced levels of aggressive behaviour following the individually tailored CBT intervention which was initially promising; however, there was evidence that level of physical aggression and anger increased by the follow up review.

Of the two studies that did not find a reduction in violent behaviour, one found a reduction in anger, and although they hypothesised that this would likely lead to a reduction in the violent expression of anger, this was not measured (Reiss et al., 1998). The tenth study (Davidson et al., 2009) did not find any differences in violent behaviour, post CBT intervention compared with the TAU group at post treatment, 6 months or 12 months follow up. They did, however, find in favour of CBT reducing other factors often important when considering criminogenic need, including problematic drinking, social functioning and beliefs about others (Andrews & Bonta, 2003). Reductions in such behaviour may however inadvertently reduce violence by virtue of less interaction with anti-social peer groups often associated with alcohol and substance misuse and more dis-inhibition, also related to alcohol and substance misuse. Davidson et al.'s findings may also reflect the complex population chosen for this study. Although ASPD has been shown to be prevalent in forensic populations (around 35% compared with between 4-6% in the general population (Black, Gunter, Loveless & Allen, 2010), it is unlikely that a random group selected from this population would all possess an ASPD diagnosis. The case series by Tew et al. (2012) perhaps presents the best comparison with Davidson et al. (2009) study, due to the similar personality traits i.e. prisoners with psychopathic personalities. However Tew et al.'s study was conducted in a contained forensic environment, where opportunity for violence may be less than in the community, making direct comparison between studies difficult. Tew et al. (2012) found mixed results in terms of more verbally aggressive outbursts than expected, however, fewer physically aggressive outbursts following their participation in the Chromis programme. This either potentially limits the generalisability of these findings to the broader forensic/psychiatric population, or suggests that if successful with this challenging population, could also be effective amongst more treatment amenable patients.

While all interventions targeted violent behaviour, it is important to note the heterogeneity of the populations studied. For example some of the participants were acutely psychotic at the time of intervention (Haddock et al., 2004), others were mainstream prisoners (Polaschek et al., 2005, Polaschek, 2010) and others had particular personality traits (Tew et al., 2012) or were living in the community (Davidson et al., 2009). In addition it is likely that there was heterogeneity within samples in relation to, for example, age, offence history and early trauma. These population variations could impact on outcome, and clearly indicate the need for further research. Although the majority of studies show promising results for the use of psychotherapeutic interventions to reduce levels of violence amongst the forensic and psychiatric populations, it is important to note that these studies utilised different intervention modalities, making firm conclusions difficult to draw. The majority of the studies used a CBT framework for the intervention, with the exception of Reiss et al. (1998), but delivery of treatment varied from a group format (Polaschek et al., 2005, Blacker et al., 2008, Hornsveld et al., 2007, Polaschek, 2010, Wilson et al., 2011), to individual (Davidson et al., 2009, Haddock et al., 2004, Haddock et al., 2009), with one including both individual and group based components (Tew et al., 2012). In addition there were differences in the content of the treatment programs (see *Table 2.1*), from relatively standard CBT (Davidson et al., 2009) to intervention including drama components (Blacker et al., 2008) and other elements such as motivational interviewing and interpersonal therapeutic work (Tew et al., 2012). Further the dosage of intervention varied from a two day course (Blacker et al., 2008) to 30 one-hour individual sessions (Davidson et al., 2009). While fidelity to a CBT model is important, it seems likely that adaptations are made to suit the needs of the forensic population, and the varied therapeutic environments which are available to clinicians within this context. This increases confounding factors having an impact on outcome, for example being part of a group programme and learning from others (Marshall & Burton, 2010), rather than outcome being related to specific CBT techniques.

There may also be other factors which could account for changes in violent behaviour, some of which are considered in theories relating to desistance from offending. Farrell and Bowling (1999) emphasise the importance of structuration theory and life-change in desistance. Therefore some of the factors considered in theories around life changes are likely to be important when considering confounding variables when evaluating interventions. Outcome measures being administered at different time periods and within different contexts, means that some of the factors involved in criminal behaviours changing are likely to be different across studies. For example, some of the post treatment outcomes were measured whilst participants were resident in a psychiatric ward (Wilson et al., 2011), others whilst in prisons (Tew et al., 2012) and others once released into the community (Polaschek et al., 2005, Polaschek, 2010). Some of these factors would be more likely to be unaccounted for in the studies with shorter or no follow up period. Further supervision orders or parole conditions may have been in parallel to periods of follow-up, therefore it is possible that such

restrictions imposed by these orders may also have an impact of readiness to act violently; this provides a further variable that is unaccounted for by the studies. In spite of the possible confounding variables, what can be concluded are the overall positive findings in favour of some kind of psychotherapeutic intervention, which currently points towards those with a CBT foundation to reduce violent behaviour.

2.9.2. Strengths and limitations of review

The authors of this review attempted to limit the potential for publication bias by corresponding with authors of included review articles in order to obtain any unpublished findings. The potential for subjective bias in methodological analysis was also limited by the studies being independently rated by a second marker producing a high degree of inter-rater reliability.

The greatest weakness of this review is considered to be the heterogeneous nature of the included studies, in terms of population and the nature of the intervention, which limits the ability to draw conclusions about the longevity of effects, the differences between therapeutic models and modalities or who is most likely to benefit. Further the inclusion of two case series papers, which are likely to possess greater levels of bias than would be hoped for, also limits the utility of this review.

2.9.3. Strengths and limitations of the papers

The papers' reporting of the intervention process from recruitment to measures of outcome post-treatment is considered a strength, as was the reporting of the intervention being delivered in a fashion that would be considered routine. Attrition rates as well as measures of outcome were generally well reported and added to the strength of the papers. Although making direct comparison of interventions more difficult, describing novel methods of intervention was also considered a strength (Tew et al., 2012). Such novel approaches potentially open up the research area, and encourage replication of such interventions, whilst offering ideas to those who are involved in developing/adapting more widely used methods of intervention.

In terms of trying to draw conclusions based on a review of the existing literature, this task was made more difficult when relevant information was missing; for example clear details of follow-up dates (Haddock et al., 2004). It was also the case that some papers provided detailed information regarding the nature of the intervention itself; session by session accounts (Hornsveld et al., 2007), whereas others provided few details (Wilson et al., 2011). Although most attrition rates were reported, Hornsveld et al. (2007) in particular demonstrated a large drop-out rate, meaning that results are likely to have been skewed and it is possible that the characteristics of those who completed the study may be different from those who did not. One of the most significant difficulties in terms of attempting to generalise findings was when papers utilised small samples, in particular case series designs (Tew et

al., 2012, Haddock et al., 2004). Although outcomes were measured by behaviour and psychometrics, results from the former may be positively biased if the same person who was facilitating the intervention also collected the outcome measures; it is not clear whether this was the case, but is worth holding in mind. Although not case studies, some of the studies simply had small samples, meaning their findings need to be interpreted with caution (Wilson et al., 2011, Polaschek et al., 2005). None of the papers reported a power analysis, therefore numbers of participants required prior to treatment in order for a medium effect size to be obtained was not known. It may be that this reflected recruitment difficulties with challenging populations. The majority of studies used standardised tools frequently used with such populations. However, when outcome measures were developed for the purpose of evaluating the intervention (Hornsveld et al., 2007), they were less easily compared to other studies. Finally the studies varied in terms of what they measured and how they referred to this, with some referring to violence and other aggression. This review is interesting in drawing conclusions about interventions reducing violence specifically.

2.9.4. Implications for further research

CBT was the dominant model in the papers reviewed except for Reiss et al. (1998) who used psychodynamic principles in their group intervention. Other than this there was no evidence of other commonly used approaches with forensic populations, such as Dialectical Behaviour Therapy (DBT), Mentalization Based Therapy (MBT), Compassion Focussed Therapy (CFT) and Cognitive Analytic Therapy (CAT). Although they are potentially more difficult to manualise in some cases, it is never the less perhaps surprising that so few of these models or elements of these models, were found to have been trialled in the interventions from the papers.

2.9.5. Implications for clinical practice

In spite of the limitations, this review goes some way to provide evidence that psychotherapeutic intervention of some form is likely to work to reduce levels of violence, at least in the short term. There is a need for studies to be replicated on a larger scale, possibly in the form of rolling out a pilot across similar forensic or clinical services, so results can be reflective of a broader forensic/psychiatric population, and take into consideration environmental differences ultimately ensuring findings are more practically relevant. It is felt that this would reduce the heterogeneity of the studies making comparison more meaningful. Using this review as a basis for such a pilot would allow clinicians to amalgamate some of the different components from the different studies, so that clearer results could be drawn in terms of the format in which the intervention is delivered, who delivers this and over what time period this occurs. This would also likely underpin policies in terms of required intervention as part of prison, probationary or compulsory treatment orders. It may also work to begin to fill the gap in terms of services offered to this particularly complex population, and instil a greater sense of optimism among staff working with this challenging group of individuals.

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3. Journal Article

Title – An investigation into the relationship between fantasy style, schizotypal personality traits, psychological distress and violent offending.

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3.1. Abstract

Much research exists exploring the relationship between fantasy and sexual offending, however, little is known about the relationship between fantasy and violent offending behaviour without any sexual component. This study is one of the first to explore this relationship with convicted offenders, where the history of violence is corroborated. A survey was conducted with 138 Scottish adult male prisoners, who did not have a history of sexual offending. The study primarily explored the differences in fantasy styles: negative, positive and narcissistic, according to level of violent behaviour. In addition, schizotypal personality traits were compared between the violence groups and correlations performed to explore the relationships between fantasy and psychological distress, criminal thinking style and schizotypy. The results indicated that there were no significant differences between different levels of violence in fantasy style scores. Fantasy style scores were significantly associated with criminal thinking styles and psychological distress. Replication of this study on a larger scale is recommended so as some of the questions raised can be explored further. However at this stage this exploratory study provides evidence for the consideration of both fantasy life and schizotypal personality traits, within the context of risk assessment and clinical intervention for this complex, dangerous, yet vulnerable group of individuals.

Keywords

Violence, fantasy, schizotypal personality traits, criminal thinking styles, psychological distress.

3.2. Highlights

- We explored the relationship between fantasy style and violent offending
- We looked at criminal thinking styles, schizotypal personality and fantasy
- Link between violence and fantasy was not supported
- Relationship between criminal thinking style and fantasy style found
- Relationship between fantasy style and psychological distress evidenced

3.3. Introduction

Violent offending is costly to victims, communities, wider society (Waters et al., 2004), the prison service and healthcare providers (Waters et al., 2004; Krug, Mercy, Dahlberg & Zwi, 2002). Due to pressure placed on correctional and healthcare services to rehabilitate offenders and patients so they are safe to be released into the community, effective rehabilitative programmes and responsive thorough risk assessment are necessary. Davey, Day and Howells (2005) indicated that traditional Cognitive Behavioural Therapy (CBT) anger management programmes designed for violent offenders are broadly limited to the less serious violent population. They also highlight the heterogeneity of the violent offender population, describing the different risk profiles and treatment needs of these individuals. Numerous variables can have an impact on violence including those identified by theories considering 'place and space', that is the influence of demographic and societal factors on violence (Sangmoon, LaGrange & Willis, 2013). However the characteristics of violent perpetrators are also important to consider when trying to understand and reduce violence. Existing risk assessment tools and processes do consider both static and dynamic risk factors; however, recidivism rates in the USA of 67.5% of a sample of 272,111 within three years of being released from prison, 21.6% for a violent crime, (Langan & Levin, 2002), indicate that rehabilitation and risk assessment processes require refining. Skeem and Douglas (2005) suggest the most promising areas for risk reduction are the dynamic risk factors i.e. individual factors that are amenable to change. The present study aimed to investigate violent offending behaviour in relation to two such potential dynamic risk factors: schizotypal personality traits (SZ) and fantasy style.

3.3.1. *Fantasy and Offending*

Evidence suggests that violent fantasy can and does play a part in violent offending. Early research indicated that violent fantasy played a key role in sexual murder, which was ultimately the acting out of the violent fantasy (Prentky et al., 1989). Prentky et al. (1989) compared a group of serial sexual murderers with a group of single sexual murderers, and found violent fantasies to be one of the "drive mechanisms" for sexual murder. As part of the MacArthur Violence Risk Assessment Study (Monahan et al., 2001), violent thoughts were explored with a large sample of psychiatric inpatients (n=1136). Results revealed that violence was associated with thoughts or daydreams about harming others, particularly if the thoughts were persistent. 'Sustained fantasies' differ from thoughts and daydreams, as they are reflective of critical aspects of the individual's coping at times of increased stress (Zelin et al., 1983). However, crucially, they are persistent, and therefore exploration of such fantasies seems a logical progression from the findings of the MacArthur study. Merckelback, Horselenberg and Muris (2001) reported that individuals with a 'fantasy proneness' have a heightened frequency of aversive childhood experience. Studies show that offenders similarly have heightened frequencies of aversive childhood experiences (Smith & Thornberry, 1995). It is therefore likely that offenders have a greater 'fantasy proneness' than the general population.

3.3.2. Cognitive theory relating to anger and aggression

Cognitive theories of anger focus on the role of rumination and rehearsal of grievances (Tice & Baumeister, 1993). This process would seem to be related to engaging in sustained fantasies, which are used at times of increased stress (Tice & Baumeister, 1993). Davey et al. (2005) proposed that those individuals who suppress the expression of anger and rather ruminate about provocations are subsequently likely to become pre-occupied with violent fantasies. This explanation is cyclical in that firstly anger cognitions are present but avoided, which consequently leads to rumination and possible fantasy. This eventually causes an increase in cognitive load, which interferes with effective information processing causing inappropriate decision-making, which in turn may manifest as violence. Davey et al. (2005) highlighted that there were no existing scientific papers investigating the relationship between violent offending and pre-occupation with violent fantasy.

More recently Egan and Campbell (2009) investigated the relationship between sustained fantasies, sensational interests and violent offending, and found those who reported violent behaviour to have more sustained negative fantasies than those without reported violent behaviour. While these findings support a relationship between fantasy and violence, this study was conducted with a general population including students, who self-reported violence, meaning the sample is not comparable with a forensic population and the reports of violence cannot be corroborated. There are no other recent studies investigating violence and fantasy using an offender population, where details of the frequency and degree of violence can be more accurately obtained and corroborated.

3.3.3. Fantasy and mental illness

Research indicates that individuals with schizophrenia also have an elevated 'fantasy proneness' (Merckelback, Rassin & Muris, 2000). It is perhaps difficult to clearly separate an increased 'fantasy proneness' from psychosis; however, support for a distinction comes from research comparing the performance of psychotic patients with controls in self-monitoring tasks. Such experiments have found support for psychotic experiences being self-generated events misattributed to external sources (Bentall, Baker & Havers, 2011). Conversely fantasies, although also self-generated, are identified by the individual as being attributed to internal sources. Convincing correlations between fantasy proneness and dissociation, schizotypy and absorption come from Merckelback et al. (2001). However, these findings were derived from student participants and are therefore unlikely to be representative of the general population or a forensic population. There is a need to explore fantasy style among the mentally disordered as well as non-mentally disordered offenders. From the evidence presented however, it could be surmised that mentally disorder offenders (MDO's), who have a diagnosis on the spectrum of schizophrenic disorders, and non-mentally disordered offenders with elements of schizotypal personality, may have a proneness to engage in fantasies, which could relate to their offending behaviour.

3.3.4. Heterogeneity of violent offenders

One potential reason for the heterogeneous profile of violent offenders is the possible distinction of the underlying aggression being either reactive or proactive (instrumental) in nature. Much of the literature investigating the differences between these types of aggression has used samples of children or adolescents. For example Polman, Orobio de Castro, Koops, van Boxtel, and Merk (2007) identified in their meta-analysis review of adolescents, that reactive and proactive aggression could be most clearly distinguished when they were investigated using behavioural observation or questionnaires, which separate the form of aggression from function. Miller and Lynam (2006) is one of the few studies to investigate these aggression types in an adult, student population. They used questionnaires and vignettes to explore the relationships between reactive and proactive aggression with social information processing and personality. They defined reactive aggression as being an act which is committed in response to a state of negative affect, such as frustration or anger, and proactive aggression as being instrumental to obtain a specific goal. The former is considered to be derived from the frustration-aggression model, whilst the latter from the social learning model. There is ongoing debate as to whether these types of aggression are distinguishable. Bushman and Anderson (2001) argue that the distinction is not warranted, and instead highlight the similarities between all types of aggression; that is an intention to harm. They acknowledge that this intention may be an ultimate goal or a proximate goal, but do not argue for the separation of aggression into these distinct categories. In contrast Merk, Orobio deCastro, Koops, and Matthys (2005) believe that the two types of aggression may have different emotional, cognitive and behavioural precursors and consequences. Similarly, Kempes, Matthy, de Vries, and van Engeland (2005) postulated that the distinction may have implications for the purposes of diagnosis and intervention, which is particularly relevant to the current paper.

3.3.5. Current Interventions

The existing intervention programmes to address violent offending behaviour are psycho-educational in nature, consider costs and benefits of offending behaviour, aim to build on victim empathy and practise the skills necessary to avoid violent re-offending. They do not currently acknowledge the possible role of violent fantasy, nor do they challenge or effectively manage these fantasies. One programme in the UK has been piloted which is designed to teach skills with which inappropriate sexual or violent fantasies can be managed, and is done so within a prison-based democratic therapeutic community (Akerman, 2008). Interviews with the participants indicated that, they had benefited from the intervention; however this study had only a small sample size ($n=4$), and behaviour change was not measured. Furthermore, the sample had committed sexual offences and is therefore not representative of the non-sexual violent offender population. Subsequently evidence is required in order for the role of fantasy in violent offending to be better understood, and guide the development of risk assessment and intervention for this population.

3.3.6. Current Risk Assessment

Risk assessment has evolved from initially being derived by clinical judgement from a single professional. Although this one-to-one experience allowed for the clinician to identify oddities within the individual, prediction of future violence based on this method alone was poor (Grove & Meehl, 1996). Actuarial risk assessment looks for key variables known to correlate with violence within a given population and is more accurate in terms of predicting violence (Quinsey, Harris, Rice & Cormier, 1998). However this method does not take account of individual factors and can over or under-estimate the risk posed (Kempshall, 2001). The Structured Professional Judgement (SPJ) system is considered relatively robust, and unlike the other types of assessment, provides information which informs formulation of risk (Hart & Logan, 2011). One of most widely used examples of such a tool to assess risk of future violence is the HCR-20 (Webster, Douglas, Eaves & Hart, 1997). This reviews ten historical items, five clinical items and five risk items. One of the newest assessment tools to be developed adds to this growing collection of SPJ's: 'The Structured Assessment of Protective Factors' (SAPROF, De Vogel, De Ruiter, Bouman, & De Vries Robbe, 2007), which is designed to be used in conjunction with other tools such as the HCR-20, but focuses on factors protecting the individual from engaging in future violence. The overarching aim of this tool is to encourage risk assessment to be balanced by, taking into account both risky and protective factors. However, although such tools consider the presence of major mental illness, and diagnosed personality disorders, they do not explore fantasies or review the presence of more subtle mental experiences, which do not meet formal criteria for a diagnosis.

3.3.7. Current Study

Zelin et al. (1983) described sustaining fantasies as being consistent, repetitive and easily retrieved into consciousness. Therefore, the consistency and intensity of sustaining fantasies differentiate them from daydreams that are more transient in nature. The MacArthur Violence Risk Assessment Study provides support for the existence of some kind of relationship between violent thoughts and actions, and warrants further exploration within a forensic population. This study looked at style rather than content of fantasy, as was reviewed by Monahan et al. (2001). The literature regarding violent fantasy and violent offending is sparse, meaning a clear relationship has not been established (Egan & Campbell, 2009). Further investigation to inform intervention and risk assessment is necessary.

3.3.8. Research Questions

1. Is there a difference in fantasy style scores across the different categories of violence?
2. Is there a difference in Schizotypal personality traits across the three categories of violence?
3. Is there a relationship between psychological distress and fantasy style?
4. What is the relationship between fantasy style and Schizotypal personality traits?

5. Is there a relationship between the criminal thinking styles (reactive and proactive) and fantasy style?

3.4. Methodology

3.4.1. Participants

Participants were male prisoners recruited through two mainstream prisons, that is prisons that accommodate those with a wide variety of offence backgrounds and are not specialised for any specific type of offence (referred here to Sites A and B). Those who were illiterate or who reported difficulties with literacy, were included in the study, but had the questions read aloud to them by the researcher. Prisoners were excluded if they were acutely unwell and housed in the 'segregation unit', or if they had committed a sexual offence.

Of the 490 participants approached, 241 (49%) provided written informed consent and of those, 142 (59%) opted into the study by completing and returning the battery of questionnaires. The age of participants ranged from 21-61 with a mean age of 34.09 ($SD=9.71$). A power analysis was carried out using G*Power 3.1.6. (Faul, Erderfelder & Buchner, 2007) which indicated that in order to obtain power at .8 with a medium effect size ($r=.3$), for correlational analysis 82 participants would be required, and for power at .8 with a medium effect size ($f=.25$), for ANOVA 108 participants would be required. Power was therefore met by the number of participants recruited $n=142$. Four participants were subsequently excluded due to incomplete questionnaires ($n=138$).

3.4.2 Design

The study adopted a cross-sectional design and administered four questionnaires to examine: sustained fantasies, schizotypal personality, criminal thinking styles, and psychological distress. These were examined in relation to offence type.

3.4.3 Procedure

Data were collected from Site A between February 2012 and April 2012 and from Site B between July 2012 and September 2012.

A study information leaflet (see *Appendix G*) was disseminated to both prisons two weeks prior to beginning the recruitment process. A member of staff, who acted as research assistant within each site, posted these leaflets around different areas of the prison and distributed them to members of prison staff. Questionnaire packs were given to participants who had provided their written consent and collected a week later. Where the participant or research assistant indicated concerns about

literacy the participant was asked to read aloud the directions from the PICTS (as per manual instructions).

The second phase of the data collection involved accessing all the participants' prison records by hand searching files, and where data were missing, accessing the online prisoner record. The information extracted from each file included: the age of the participant, their index offence and a list of their previous convictions.

3.4.4 Measures

3.4.4.1. *The Sustaining Fantasies Questionnaire (SFQ, Zelin et al., 1983).*

This scale was designed to measure the fantasy life that people use as a mechanism to cope with stress. There are 88 questions which are divided into 10 subscales (Aesthetics, use of God, admiration of self, love and closeness, restitution, power and revenge, dying and illness, withdrawal and protection, suffering, competition), investigating style and type of fantasy. The measure uses a Likert style format where participants can score 1 to 5 (1=*Hardly at all* to 5=*Extremely*) on each item, e.g. *Locking myself away somewhere I won't get hurt; Getting back at people who hurt me*. Although this measure was initially designed for use with psychiatric inpatients, it was also developed using a student sample and is therefore considered appropriate to be used with a wide range of populations (Zelin et al., 1983). The SFQ has been shown to have good reliability and validity (Zelin et al., 1983). This scale has most recently been used by Egan and Campbell (2009), who carried out a principal components analysis with oblique and varimax rotations of the derived components, and conducted this upon the ten SFQ subscales to reduce the measure to fewer, more general dimensions of fantasy: narcissistic, positive and negative. This study used their categorisation system, although the strong correlations found between all three styles (see *Table 3.3*), meant that the mean fantasy style continuous scores were used for the purposes of data analysis. These scores were derived by simply adding up all the item scores that went into each of the three categories. The three categories of fantasy were found to have good internal reliability with the current data set with a Cronbach's $\alpha=.84$ for negative, Cronbach's $\alpha=.89$ for positive and Cronbach's $\alpha=.73$ for narcissistic fantasy styles.

3.4.4.2. *Schizotypal Personality Questionnaire (SPQ, Raine, 1991).*

This scale screens for Schizotypal Personality type and has been shown to have good reliability and validity (Raine, 1991). Although it is not a diagnostic tool, it was developed with reference to the DSM-III-R criteria of Schizotypal Personality Disorder to measure Schizotypal personality traits (SZ). This scale is divided into nine subscales (ideas of reference, excessive social anxiety, odd beliefs or magical thinking, unusual perceptual experiences, odd or eccentric behaviour, no close friends, odd

speech, constricted affect, suspiciousness). There are 74 questions, scoring either 1 or 0 (1=Yes, 0=No), e.g. *I feel very uncomfortable in social situations involving unfamiliar people; Some people find me a bit vague and elusive during a conversation.* In the original population on which the instrument was developed, ten percentile high and low cut-offs on the distribution of scores of the SPQ were 41 and 12 respectively. Therefore a score of 41 or above indicates the presence of SZ, whereas a score of 12 or below correlated with the absence of a diagnosis of SZ (Raine, 1991). Continuous data were derived by summing the scores for each individual, and these continuous scores were used in the data analysis. This scale was found to have good internal reliability with this data set, with Cronbach's $\alpha=.96$.

3.4.4.3. *Psychological Inventory of Criminal Thinking Styles (PICTS, Walters, 1995).*

The PICTS measures a person's cognitions in the form of attitudes, thinking styles and beliefs with references to a criminal lifestyle. The rationale for this measure comes from the idea that pleasurable outcomes reinforce certain actions and decisions, whereas painful outcomes lead to such actions and decisions being abandoned. Based on this the individual creates "*a system of cognition*" (Walters, 2006; p4, line 11) which is used to justify and explain their decisions and actions. The two composite scales of this tool, the proactive and the reactive thinking scale were exclusively utilised in this study. A meta-analysis has shown this scale to possess moderate to moderately high internal consistency and test-retest stability (Walters, 2002). Factor analysis found the scale to have two dimensions of proactive and reactive violent experiences (Walters, 2005). This aims to provide objective evidence of differences identified between reactive and proactive violence. Scores were derived by summing the items relating to each reactive and proactive category, and then referring to the manual to convert these raw scores to T scores. According to the manual, a T score of >55 in either of the reactive or proactive categories indicates the presence of a corresponding criminal thinking style. A high score on either or both of these items indicate the presence of a belief system supportive of a criminal lifestyle. When the proactive scale is ten or more T-score points higher than the reactive score, the individual's criminal thinking tends to be impulsive, disorganised, and outer-directed. The T-scores were used as continuous data for correlational analysis, however, the categories that individuals were placed in according to their scores, were used whilst looking for differences. The items used to calculate the reactive and proactive categories were shown to have good internal reliability with a Cronbach's $\alpha=.93$, with this current data set.

3.4.4.4. *The CORE-10 (Clinical Outcomes in Routine Evaluation, Evans et al., 2000).*

This is a commonly used measure of psychological distress and one of the most widely used measures of psychological therapies outcome in the United Kingdom, often used to measure psychological distress on a session-by-session basis (Barkham et al., 2001). It is a brief version of the 34 item CORE outcome measure. Items cover anxiety (2 items), depression (2 items), trauma (1 item),

physical problems (1 item) functioning (3 items - day to day functioning, intimate relationships, social relationships) and risk to self (1 item). The measure has 6 high intensity/severity and 4 low intensity/severity items. Devised to screen for psychological distress, it was developed with the intention of being used by both practitioners and researchers (Barkham et al., 1998). Evans et al. (2000) found the CORE to have good reliability and convergent validity in a sample of more than 2000 participants. The CORE-10 was found to have good internal reliability with this data set, with a Cronbach's $\alpha=.85$.

3.4.4.5. *Categorisation of violence*

The first author reviewed the files of all participants and obtained lists of convictions for each. This information was used to place each participant into one of three categories in terms of their history of violent behaviour: *definite/serious violence*, *partial/less serious violence* and *no violence*. These categories corresponded to the widely used HCR-20 (Webster et al., 1997). A test of inter-rater reliability found a Kappa co-efficient for overall agreement of 0.88, indicating adequate inter-rater agreement (Randolph, 2008).

3.4.4.6. *Ethical Considerations*

Ethical approval was sought and granted by the Scottish Prison Service (SPS) Research Access and Ethics Committee (RAEC) on the 30th of September 2011 (see *Appendix D*). The questionnaires were chosen for their reliability and validity but also for their brevity, taking a total of 30-45 minutes to complete.

3.4.4.7. *Data Preparation*

Prior to statistical analysis, the data set was cleaned. During this process and in accordance with the manuals for the questionnaires where an acceptable number of missing items were specified (this varied according to each questionnaire manual), the items were prorated by calculating the individual means for each subscale. When this was not specified in the manual, as was the case for the SPQ, cases were removed when more than a quarter of the items were missing, when an acceptable number of items were completed, the missing values were dealt with by inserting means for each individual. Four cases were removed from the database on this basis. An analysis of missing data was carried out and indicated that 1.41% of data overall was missing, however, when this was reanalysed following the removal of the four cases, the missing data value dropped to 0.30%. Data were analysed using SPSS 19.0.

3.4.5. Testing distribution, normality and homogeneity of variance

3.4.5.1. Tests of distribution

The distribution of the data were tested both subjectively, by observing the pattern of the distribution in histogram charts, and objectively by dividing the skewness statistic by the skewness standard error. This demonstrated that negative fantasy, narcissistic fantasy, SZ, proactive and reactive criminal thinking styles were all positively skewed.

3.4.5.2. Tests of normality

The Komogorov-Smirnov (K-S) test was carried out and indicated that negative fantasy, psychological distress (CORE-10), SZ and both reactive and proactive criminal thinking styles did not have normal distributions.

3.4.5.3. Tests of homogeneity of variance

The Levene's test was utilised to test the data for homogeneity and indicated, that there were no significant differences on variance in scores on the three fantasy styles, or schizotypy between the violence categories, and also no differences in variance for the three fantasy style scores between the four criminal thinking style groups. Therefore homogeneity of variance could be assumed.

The assumption of normality of distribution was not adhered to by the data set, and therefore standard parametric statistics could not be applied directly to the data. To rectify this and allow the data to be analysed by the more robust parametric compared to non-parametric tests, the data were transformed. This was attempted using log transformations ($\log(X_i)$), square root transformations ($\sqrt{X_i}$) and reciprocal transformations ($1/X_i$), however, these transformations did not allow for the data to become normally distributed. Therefore non-parametric equivalent tests were used to analyse the data set.

3.4.6. Data Analysis

In order to answer the research questions, non-parametric equivalents of ANOVA and correlations were utilised, specifically Kruskal-Wallis tests were used to look for differences between groups, and Kendall's tau-b correlation analysis to look for relationships between variables. The Kendall's tau-b correlation is similar to the better known Spearman's correlation analysis, although is argued by some to be a better estimate of the correlation in the population, and as such, more accurate generalisations can be drawn from the Kendall's statistic than from Spearman's (Howell, 1997). Subsequently the Kendall rather than Spearman correlation was adopted in this study. Due to the number of proposed comparisons, a Bonferroni correction was applied to adjust the p-value indicating a more sensitive level of significance, to ensure any significant findings were not due to chance. Non-parametric post

hoc specific comparisons were utilised to identify where any specific differences identified by the Kruskal-Wallis lay. Specific post hoc comparisons were performed rather than Mann Whitney tests, due to the former allowing for an effect size estimate to be calculated, by the generation of a Chi Square (Field, 2009).

3.5. Results

3.5.1. Descriptive Statistics

Table 3.1. *Percentage of sample in each violence category and criminal thinking style category.*

<u>Violence Category</u>	<u>% of Sample</u>	<u>Frequency</u>
Definite Violence	60	83
Partial Violence	22	30
No Violence	18	25
<u>Criminal Thinking Style Category</u>	<u>% of Sample</u>	<u>Frequency</u>
Reactive	38	52
Neither	37	51
Instrumental	13	18
Both	12	17

Table 3.1 shows that the majority of participants fell into the definite/severe violence category and that the dominant criminal thinking style within the sample was Reactive.

3.5.2. *Differences in positive, negative and narcissistic fantasy style scores between violent behaviour groups.*

A Kruskal-Wallis test was carried out to test for differences in positive, negative and narcissistic fantasy style scores between the three violence groups. The results showed no differences in fantasy style scores between groups, negative fantasy $H(2)=0.40$, $p=.820$, positive fantasy style $H(2)=3.25$, $p=.196$ and narcissistic fantasy style $H(2)=1.93$, $p=.382$.

3.5.3. *Difference in Schizotypal personality traits across the three categories of violence.*

A Kruskal-Wallis test found no significant difference in schizotypal scores between violence groups, $H(2)=.21$, $p=.899$.

Table 3.2. Descriptive statistics of fantasy and schizotypal scores across violence categories

		No Violence	Partial Violence	Definite/Severe Violence
Negative Fantasy Style Score	Mean	1.62	1.64	1.66
	Median	1.53	1.56	1.47
	SD	0.47	0.63	0.70
	Range	1.88	3.24	3.03
Positive Fantasy Style Score	Mean	2.53	2.18	2.25
	Median	2.66	2.26	2.16
	SD	0.64	0.80	0.77
	Range	2.36	3.48	3.20
Narcissistic Fantasy Style Score	Mean	2.10	1.98	1.96
	Median	2.19	2.03	1.83
	SD	0.53	0.77	0.69
	Range	2.03	3.36	3.00
SPQ Total Score	Mean	20.96	20.83	21.90
	Median	19.00	15.00	18.00
	SD	17.35	17.88	17.08
	Range	54	52	70

3.5.4. Relationship between psychological distress and fantasy style.

A Kendall's tau-b correlation was carried out using the continuous score from the CORE-10 scale, and the fantasy style scores. Table 3.3 shows that psychological distress was positively correlated with all three fantasy styles ($p < .001$). The strongest correlation can be seen between psychological distress and negative fantasy style scores, which had a medium effect size (Cohen, 1992).

Table 3.3 Correlation Matrix of continuous variables

	Proactive	CORE-10	Narcissistic Fantasy Score	Positive Fantasy Score	Negative Fantasy Score	SPQ
Reactive	.482**	.336**	.145	.015	.323**	.442**
Proactive	/	.226**	.167*	.035	.334**	.333**
CORE-10		/	.222**	.200**	.437**	.509**
Narcissistic Fantasy Score			/	.716**	.613**	.318**
Positive Fantasy Score				/	.485**	.250**
Negative Fantasy Score					/	.527**

* Correlation is significant at the 0.008 level (2-tailed)

** Correlation is significant at 0.001 level (2-tailed)

P-values were adjusted for multiple comparisons using Bonferroni adjustment, therefore minimum level of significance < 0.008 , rather than 0.05.

3.5.5. Relationship between fantasising and Schizotypal personality trait.

A Kendall's tau-b correlation analysis found significant positive correlations between SZ and all three types of fantasy style (see Table 3.3). The strongest correlation was between SZ and negative fantasy style scores, although the correlation with narcissistic style scores also demonstrated a medium effect size.

3.5.6. Relationship between reactive and proactive criminal thinking styles and fantasy style.

A Kendall's tau-b correlation analysis was carried out to explore the relationships between both types of criminal thinking styles and fantasy style scores (see Table 3.3). Proactive criminal thinking style was positively correlated with a negative fantasy style score, $r(132)=.33, p<.001$, as was reactive thinking styles, $r(132)=.32, p<.001$, both with a medium effect size. Proactive criminal thinking styles were also positively correlated with a narcissistic fantasy style score, $r(132)=.17, p<.008$ with a small effect size, however, reactive criminal thinking styles were not found to be significantly correlated with narcissistic fantasy styles scores, $r(132)=.15, p>.008$. A significant correlation was not found between either of the thinking styles and positive fantasy style scores.

A Kruskal-Wallis test was then carried out to investigate whether there was a difference in each of the three fantasy style scores between criminal thinking styles, by categorising the thinking styles into: neither, instrumental, reactive or both. The results showed that the distributions of positive fantasy style scores were not significantly different across criminal thinking style categories, $H(3)=1.76, p=.623$. However, the distribution of negative and narcissistic style fantasy scores did differ significantly across criminal thinking style category $H(3)=31.81, p<.001$ for negative fantasy, $H(3)=9.79, p=.020$ for narcissistic fantasy. Post hoc specific comparisons were performed to identify where the differences lay between the different criminal thinking style groups. These indicated that for both narcissistic and negative fantasy styles scores, the 'neither' group were significantly different from the other three thinking style groups, 'reactive', 'proactive' and 'both' ($p<.05$ in each case). No other significant differences emerged. Therefore statistically there were no significant differences found in terms of fantasy styles scores between reactive or proactive thinking style ($p=.201$), rather what was found to be the important discriminating factor, was simply the presence of the thinking style or not. The effect size estimates were larger in each case, when a significant difference was found, in relation to the negative fantasy style score compared with narcissistic fantasy style scores: 15% compared to 4%, 14% compared to 4% and 11% compared to 3%, meaning more of the variability in rank order scores could be accounted for by the criminal thinking style associated with the negative fantasy style scores.

3.5.7. Incidental findings

By creating a correlation matrix (*Table 3.3*), the authors noticed significant correlations between all three fantasy style scores. Negative and narcissistic style scores were significantly correlated with a large effect size ($r(134)=.61, p<.001$), as were positive and narcissistic style scores ($r(134)=.72, p<.001$) and negative and positive style scores were significantly correlated with a medium effect size ($r(134)=.49, p<.001$).

3.6. Discussion

3.6.1. Summary of results

The aim of the present study was to explore the relationships between fantasy, SZ, criminal thinking style and violent behaviour. The results indicated that the violence groups did not significantly differ in terms of negative, positive and narcissistic fantasy style scores or in SZ. However, significant correlations were found between fantasising and SZ, with the strongest positive correlation found between SZ and negative fantasy style scores. Similarly significant correlations were found between psychological distress and all fantasy style scores, although again the strongest correlation was with negative fantasy style scores. A significant relationship was also found between criminal thinking style (reactive and proactive) and fantasy style scores, with both being significantly positively correlated with negative, and proactive significantly correlated with narcissistic, but not with positive, fantasy styles scores. Further analysis with thinking style categories revealed that, differences in negative and narcissistic fantasy scores lay between those who have neither criminal thinking style and those who do display a criminal thinking style (either reactive, proactive or both); no differences were found between reactive or proactive criminal thinking style groups.

3.6.2. Fantasy and violence.

The present findings differ from those of Egan and Campbell (2009), who found those with greater self-reported aggression engaged in more negative and narcissistic fantasies. This previous study recruited a mostly student population meaning the results cannot be directly compared. How violence was determined was also different, with Egan and Campbell asking for self-reported incidences of physical aggression which were prepared as continuous data, compared to this study where file information of violent convictions was reported and individuals categorised into three groups. The general population may have felt more willing to report their engagement in some of the more negative and narcissistic fantasies, as there were no consequences of this disclosure, compared to the prisoner population who may have feared the impact of such disclosures on their progression. It is therefore possible that the prisoner population did not accurately report their fantasy experiences. Measures were taken to try to avoid this, by for example, including a general Likert style fantasy

questionnaire, rather than requests for personal disclosure of fantasy content. Nevertheless, it is possible that this was not sufficiently reassuring for the participants. In addition the population used in this study is skewed in terms of level of violence, in so far as violence is more of a 'norm'. This was demonstrated by the number of participants in each violence category with those in the definite/severe acts of violence being over-represented, relative to partial/less serious and no violence. Therefore such a relationship may be more easily demonstrated with a broader range of participants in terms of their level and amount of violence perpetrated. The relationships between fantasy style and violence should not be disregarded at this stage, as such a relationship is unlikely to be linear, and therefore requires further exploration to think about causation and mediation more specifically. Furthermore, as the sample showed a proneness to fantasy, it may be the case that there is little variation in scores in order for a relationship with violence to be found.

3.6.3. Reactive and proactive thinking styles and fantasy

It is somewhat surprising that the criminal thinking styles were correlated with negative and in the proactive case also narcissistic fantasy style, but that levels of violence were not. One explanation would be that separating offending into different categories of violence, or specifically categorising them in the way that has been done in this instance, is not meaningful. Alternatively, it may be that the presence of a criminal thinking style generally is more important when it comes to understanding fantasies, whereby, those with criminal supportive beliefs, whether these are reactive or proactive, are more likely to engage in negative and narcissistic fantasies than those without such beliefs. The thinking styles are not a direct measure of reactive or proactive violence, although they have been associated with serious patterns of criminal behaviour (Walters, 2002). Further the correlational analysis identifies relationships but does not provide any information about the direction of causality. Further exploration of this significant correlation would be of interest.

3.6.4. Psychological distress and fantasy

The results found psychological distress to be positively correlated with all fantasy style scores, although was strongest with negative fantasies. However a note of caution is necessary about conclusions regarding the measurement of psychological distress. It is likely that participants scored relatively highly on this measure, in some instances, due to their incarceration. Some of the questions are likely to be affected by, for example, being separated from family e.g. "*I have felt I have someone to turn to for support when needed*" or coping with the prospect of a long custodial sentence e.g. "*I have felt despairing or hopeless*". This of course is not necessarily the case for all participants, but is worth holding in mind when interpreting the overall findings. The relationships identified between the fantasy styles scores and psychological distress, point towards the potential function fantasies serve in terms of emotion regulation and could therefore be useful to understand in terms of therapeutic intervention.

3.6.5. Clinical Implications

The significant correlations found between negative and both reactive and proactive criminal thinking styles, and narcissistic with proactive, are important to consider in general criminogenic and clinical terms. Skilled clinicians exploring both these constructs, criminal thinking style and fantasy style, on an individual basis is considered worthwhile. Although negative and narcissistic fantasy styles may be considered less preferable than positive fantasies, especially with the knowledge of their correlation with proactive and reactive (exclusively with negative) criminal thinking styles, understanding the function of the fantasy style is considered useful in terms of preserving the therapeutic alliance. For example a narcissistic fantasy style may serve to preserve self-esteem therefore attempts to challenge this too soon may lead to a therapeutic rupture. The findings also have relevance for risk assessment. For example, the knowledge that styles of criminal supportive beliefs are significantly correlated with negative and to a lesser extent, narcissistic fantasy style scores, could be incorporated into assessment of dominant fantasy style and used to inform risk assessment. Furthermore if the dominant style is exposed as being positive, and therefore less likely to be correlated with a criminal thinking style, this may act as a protective factor; which could be utilised as part of the ethos beginning to develop around nurturing protective factors (De Vogel et al., 2007).

According to the literature, individuals with SZ are likely to have an elevated 'fantasy proneness' (Merckelback et al., 2001), therefore it was not surprising that SZ and all three fantasy styles were positively correlated. The strongest correlation was between SZ and negative fantasy style scores, therefore clinically, it seems relevant to consider fantasy style when SZ are identified. Although the distinction between psychosis and 'fantasy proneness' was made earlier, clinically the distinction may not be so clear. Therefore being mindful of Bentall et al.'s (2011) distinction may be useful when trying to determine whether the 'fantasy' is just that, or a psychotic experience. It is probable that being able to determine whether the experience is that of a fantasy or a psychosis, is important in terms of determining risk, but more importantly tailoring intervention. Although, this study did not include mentally disordered offenders (MDO's), it did explore the overlapping construct SZ, and therefore goes some way to generalising the findings to MDO's.

The PICTS separate participants into having; neither criminal thinking style both styles and either reactive or proactive. However, in this case the distinction between the thinking styles was not particularly meaningful. The important factor was rather whether a criminal thinking style was present. This discrete finding would suggest that the population can be separated into the different groups which would provide support for Merk, Orobio deCastro, Koops and Matthys (2005) and Tapscott, Hancock and Hoaken (2012), who believe the two types of aggression should be distinct. However, the lack of meaningful findings by separating the types of thinking in this study would question the rationale for doing so.

3.6.6. Strengths of the study

This study is one of few to explore the relationship between fantasy and violence, and has been able to do so with a relatively large forensic sample, where actual physical violence has been corroborated. Much of the existing literature focuses around the possible relationship between fantasy and sexual offences, rather than violence. Furthermore, it was the first study to look at fantasy style rather than content with a forensic sample, and therefore offers new information to the field. The study sample is likely to be representative of what would be encountered clinically. Participants were recruited from two prison sites in an effort for the sample to represent the Scottish forensic population

3.6.7. Limitations of the study

There are a number of methodological limitations of this study therefore the results should be interpreted with caution. Firstly no control group was utilised, so the only comparisons that can be made are with other convicted offenders. Secondly the use of self-report questionnaires has possible implications for accuracy of responses. As required by the SPS RAEC, the author had to be accompanied by prison staff during the recruitment phase of the study. This may have heightened the suspicions of some participants, amongst a population which may be prone to elevated levels of suspiciousness (Haney, 2002). These fears may have been alleviated, had the researcher been free to recruit and collect data independently. The categorisation of violence was based solely on violence that participants had been convicted of it is of course possible that participants had more substantial violent histories than officially recorded. Subsequently it is important to acknowledge that drawing conclusions about differences between these groups is tentative at best. Replication on a larger scale with groups of equal sizes, and across more prison or community sites, would reduce the chance of the data being skewed.

Many factors relating to violence other than the ones considered in this study have already been identified (e.g. Monahan et al., 2001). This study did not measure these broader factors and subsequently the findings at this point can only be considered in isolation. Further research exploring relationships with other risk factors would be of interest but was not feasible in this study.

3.6.8. Incidental findings and future Research

Strong positive correlations emerged between the three styles of fantasy, suggesting that the SFQ may not be measuring three distinct fantasy styles. There is therefore a need to test further the validity of the three fantasy types or for further exploration with the use of a different measure. The analysis shows positive correlations between most of the variables explored in this study, which indicates either; that all these variables are indeed related and provide a matrix of factors to consider in terms of intervention and risk formulation, or they highlight that some of the variables may not be entirely

distinct from one another. The current exploratory study has used measures to identify trends in the data and has made some head-way in terms of exploring violent behaviour in relation to some of the less well researched variables. The suggested next step would be a follow-up study using a qualitative design to further explore the relationship between fantasy and violence. This may allow for content rather than just style of fantasy to be reviewed, whilst perhaps considering violence in greater detail. Developing a new measure of fantasy based on such qualitative research would be recommended.

The HCR-20 definition of violence and the system of categorisation is arguably vague, and allows a very broad range of individuals to be considered within the definite/severe category i.e. from one incident of serious assault to serial murder; the profile of each perpetrator would likely be very different. It was felt important in this exploratory study, to categorise the sample using a recognised and broadly used criteria. However, in order for greater understanding to be achieved about these individuals who perpetrate violence, looking at other factors important in violence would be recommended such as: type of violence, degree of violence and victimology. The nature of violence may also be important to consider specifically when considering the impact/influence of fantasy. For example it might be expected that fantasy would play less of a role in impulsive compared to premeditated acts of violence.

Further research in this area is essential in order to support or refute the existence of the relationship between violence and fantasy; however the present study highlights an additional variable to consider in risk assessment. Attempts to improve risk assessment are essential in an effort to reduce the frequency of violence and ultimately the considerable detrimental impact it has on the victims, perpetrators and society as a whole.

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State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

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A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results

Results should be clear and concise.

Discussion

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Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

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- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
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Acknowledgements

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Present simple formulae in the line of normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text). AUTHOR INFORMATION PACK 19 Apr 2013 www.elsevier.com/locate/agggviobeh 8

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Reference management software

This journal has standard templates available in key reference management packages EndNote (<http://www.endnote.com/support/enstyles.asp>) and Reference Manager (<http://refman.com/support/rmstyles.asp>). Using plug-ins to wordprocessing packages, authors only need to select the appropriate journal template when preparing their article and the list of references and citations to these will be formatted according to the journal style which is described below.

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Text: Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 978-1-4338-0561-5, copies of which may be ordered from <http://books.apa.org/books.cfm?id=4200067> or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK.

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Examples:

Reference to a journal publication: Van der Geer, J., Hanraads, J. A. J., & Lupton, R. A. (2010). The art of writing a scientific article.

Journal of Scientific Communications, 163, 51–59.

Reference to a book:

Strunk, W., Jr., & White, E. B. (2000). *The elements of style*. (4th ed.). New York: Longman, (Chapter 4).

Reference to a chapter in an edited book:

Mettam, G. R., & Adams, L. B. (2009). How to prepare an electronic version of your article. In B. S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281–304). New York: E-Publishing Inc.

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All necessary files have been uploaded, and contain:

- Keywords
- All figure captions
- All tables (including title, description, footnotes)

Further considerations

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- References are in the correct format for this journal
- All references mentioned in the Reference list are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Web)
- Color figures are clearly marked as being intended for color reproduction on the Web (free of charge) and in print, or to be reproduced in color on the Web (free of charge) and in black-and-white in print
- If only color on the Web is required, black-and-white versions of the figures are also supplied for printing purposes For any further information please visit our customer support site at <http://support.elsevier.com>.

Appendix B

Quality Criteria for Systematic Review November 2012

Review Question: Do psychological interventions for violent behaviour of those in clinical or forensic settings, work to reduce violence behaviour?

Study Design and Potential Bias (Internal Validity)

- 1. Patients were randomly allocated and this process was sufficiently concealed
- 2. Participants, facilitators etc. were blind to the allocation
- 3. Attrition rates were reported

Choice of outcome measure

- 4. Outcome measures of violence and anger are valid, reliable and standardised
- 5. Outcome is relevant and meaningful to the intervention and the evaluation

Statistical issues

- 6. Study is adequately powered to detect the effect of the intervention
- 7. Appropriate analysis for outcome measures used and p values and effect sizes reported where appropriate

Quality of reporting

- 8. The TREND and CONSORT statement guidelines for reporting have been adhered to in the non-randomised and RCT's.

Quality of the intervention

- 9. The intervention has been appropriately defined
- 10. Intervention was delivered as planned (good fidelity)

Generalisability (External Bias)

- 11. Intervention has been implemented in a way that would be considered 'routine practice'
- 12. Follow up evaluation undertaken

(Developed in accordance with the York Guidelines for completing systematic reviews.)

Scoring of Quality Criteria

- 1. Patients were randomly allocated and this process was sufficiently concealed

Well Covered	The process of random allocation <i>and</i> concealment are well described so as the method of both are clear.
Adequately Addressed	The process of random allocation <i>and</i> concealment are mentioned but without great detail so as the actual method of each is unclear
Poorly Addressed	The process of random allocation <i>or</i> concealment are mentioned but not sufficiently described or non-randomisation to groups
Not Addressed	The process of random allocation <i>and/or</i> concealment are not addressed
Not Reported	The process of random allocation <i>and/or</i> concealment is not reported
Not Applicable	The process of random allocation <i>and/or</i> concealment not applicable in this instance

- 2. Participants, facilitators etc. were blind to the allocation

Well Covered	Those who administered the outcome measures were blind to the allocation of participants or different people were involved in the administration of the measures and delivery of intervention. The method of this being ensured is clearly defined.
Adequately Addressed	The process of how researchers were blinded to allocation is described but there is not sufficient detail to fully understand the method by which this was ensured.
Poorly Addressed	Blinding of researchers is mentioned, however, no details about how this was done are provided.
Not Addressed	The issue of blinding the researchers was not discussed.
Not Reported	The blinding of researchers to allocation was not reported.
Not Applicable	The blinding of researchers to allocation is not applicable in this instance.

3. Attrition rates were reported

Well Covered	Attrition rates are described for both intervention and control groups and are similar, and where differences exist, intention to treat analyses are described and carried out.
Adequately Addressed	Attrition rates are described, although differences exist between groups. Where these differences exist, intention to treat analyses are carried out, although they are less clearly described.
Poorly Addressed	Attrition rates are described, differences exist between groups, and however, it is less clear whether intention to treat analyses were carried out.
Not Addressed	The issue of attrition rates are mentioned but not clearly described and the issue of intention to treat analyses are not discussed.
Not Reported	The issue of attrition rates and intention to treat analyses are not reported.
Not Applicable	The issue of attrition rates and intention to treat analyses are not applicable in this instance.

4. Outcome measures of violence and anger are valid, reliable and standardised

Well Covered	The psychometric properties of the outcome measures used are clearly described along with details of their validity and reliability within the forensic or clinical population utilised in the study.
Adequately Addressed	The outcome measures are described but less well so and details around their validity, reliability or standardisation within the particular population are less clear. The measure is less well standardised with population of violent individuals in clinical or forensic populations.
Poorly Addressed	The use of outcome measures are mentioned but little information is given about the tools used or their properties in terms of validity and reliability or the tool used is not standardised with the forensic or clinical sample nor has poor reliability or validity.
Not Addressed	The use of outcome measures are mentioned but not further information is given.
Not Reported	The use of outcome measures are not reported.
Not Applicable	The use of outcome measures are not applicable in this instance.

5. Outcome is relevant and meaningful to the intervention and the evaluation

Well Covered	The rationale for working towards a particular outcome is explained in terms of the relevance to the intervention being delivered and the evaluation of this in the broader context of violence reduction in forensic or clinical areas.
Adequately Addressed	The outcome is described but is less relevant either to the specific intervention being delivered or to the field of clinical or forensic practice with individuals at risk of violence.
Poorly Addressed	The outcome is mentioned but is less well covered and its usefulness to the evaluation of the intervention or broader improvements in practice are less clearly described.
Not Addressed	The overall outcome is not related to the intervention specifically or the broader context of violence reduction sufficiently.
Not Reported	How the outcome is related to intervention and evaluation is not reported.
Not Applicable	How the outcome is related to intervention and evaluation is not applicable in this instance.

6. Study is adequately powered to detect the effect of the intervention

Well Covered	Power calculation was completed using a reasonable effect size estimation and is clearly reported along with sufficient sample size within each group.
Adequately Addressed	Power calculation is carried out, however, arbitrary effect size estimation used.
Poorly Addressed	Power calculation is completed, however, effect size estimation not mentioned and no evidence of this having informed the sample size in each group.
Not Addressed	Power calculation not completed or paper failed to meet the power calculation with sufficient sample size meaning any difference is not statistically significant.
Not Reported	Power calculation not reported.
Not Applicable	Power calculation not applicable in this instance.

7. Appropriate analysis for outcome measures used and p values, confidence intervals and effect sizes reported where appropriate

Well Covered	Method of quantitative analysis used provides meaningful results of outcome and the confidence intervals, p-values and effect sizes are reported where appropriate. The analysis is described in sufficient detail so as statistical significance as well as descriptive information is clearly presented.
Adequately Addressed	The quantitative analysis used provides meaningful results, however, the details of this such

	as the p-values, confidence intervals and effect sizes are less well covered.
Poorly Addressed	The method of analysis used has not been well considered and does not provide the best presentation of results from the study. The p-values, effect sizes and confidence intervals may have mentioned but are not sufficient in this case.
Not Addressed	There has not been any quantitative analysis used in this case, rather inconclusive findings have been provided.
Not Reported	The methods of analysis have not been reported.
Not Applicable	The methods of analysis are not applicable in this instance.

8. The TREND and CONSORT statement guidelines for reporting have been adhered to in the RCT's and non-randomised trials.

Well Covered	The reporting and layout of the article has strictly followed the relevant statement guideline.
Adequately Addressed	The layout of the article is not in exactly the same format as that provided by the relevant guideline; however, the content required by the guideline is present.
Poorly Addressed	The guideline of reporting has not been adhered to successfully. There is evidence that aspects of the guideline have been considered but has not been sufficiently followed.
Not Addressed	There is no evidence that the guideline has been considered when the article has been developed.
Not Reported	N/A
Not Applicable	Adherence to the relevant guideline is not applicable in this instance.

9. The intervention has been appropriately defined

Well Covered	The intervention is covered in sufficient detail including reference to the theoretical underpinnings and the potential impact on level of violence within the target population. The content and procedures of the intervention are clearly described so as it could be replicated by the reader, as are any 'rest periods'.
Adequately Addressed	The intervention is described in relatively sufficient detail, although is less well covered. The theoretical underpinnings and impact of intervention are discussed but in less detail. The content and procedures are also mentioned but lack the acute detail necessary for the intervention to be accurately replicated.
Poorly Addressed	The intervention is described; however, there is a lack of reference to the theoretical underpinnings and potential impact within sample. The content and procedures are not discussed.
Not Addressed	The overall aim of the intervention is mentioned but the underpinnings and procedures of the intervention are lacking.
Not Reported	Details of the intervention itself are not reported.
Not Applicable	Details of the intervention are not applicable in this instance.

10. Intervention was delivered as planned (good fidelity)

Well Covered	Details of how the intervention should be operationalized are provided and adhered to, as are fidelity checks such as supervision and reflective practice.
Adequately Addressed	Details of operationalization of the intervention are provided and adhered to, however, no fidelity check are described.
Poorly Addressed	Details of how the intervention should be operationalized are mentioned, however, there is no evidence of this being adhered to AND/OR there are no fidelity checks evidenced.
Not Addressed	Operationalization of the intervention AND/OR fidelity checks are mentioned but not elaborated on.
Not Reported	Operationalization of the intervention AND fidelity checks are not reported.
Not Applicable	Operationalization of the intervention AND fidelity checks are not applicable in this instance.

11. Intervention has been implemented in a way that would be considered 'routine practice'

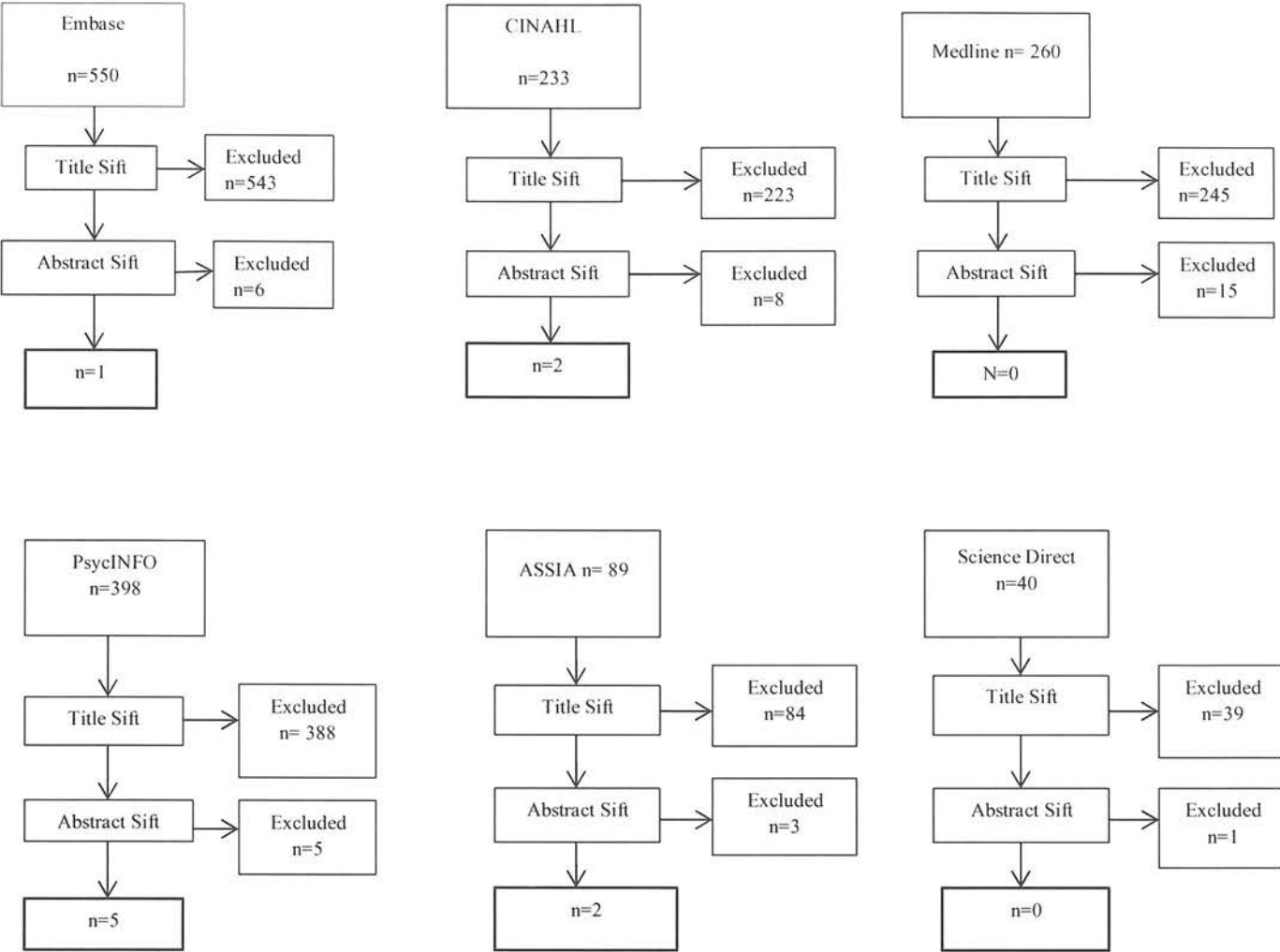
Well Covered	The intervention took place in a forensic or clinical setting and the article discusses external validity and applicability to intervention across these settings.
Adequately Addressed	The paper describes external validity and the applicability of the intervention across the forensic and clinical settings, however, did not take place in this setting.
Poorly Addressed	The paper does not discuss external validity and not do take place in a forensic or clinical setting.
Not Addressed	
Not Reported	Neither external validity nor intervention setting was reported in the paper.
Not Applicable	Neither external validity nor intervention setting was applicable in this instance.

12. Follow up evaluation undertaken

Well Covered	Follow up evaluation described in detail and implemented at pre-arranged intervals which were described clearly, along with the outcome of this evaluation.
Adequately Addressed	Follow up evaluation was referred to and the benefits of this were highlighted, however, it was not completed OR the findings from it were not provided within the paper.
Poorly Addressed	The rationale for a follow up evaluation was mentioned, however, it was not elaborated on nor was it completed.
Not Addressed	The rationale for a follow up evaluation was not addressed.
Not Reported	The rationale for a follow up evaluation was not reported in the paper.
Not Applicable	A follow up evaluation was not applicable in this instance.

Appendix C

Flow charts of search process within each database for Systematic Review.



Appendix D

Systematic Review: Excluded studies.

1. Chambers <i>et al.</i> (2008)	Not an intervention study with outcome	Science Direct
2. Harvard Mental Health Letter April (2011)	Review and not a clinical or forensic population	CINAHL
3. New Scientist (2010)	Brief review, not intervention paper	CINAHL
4. Harvard Mental Health Letter (2002)	Review and not a clinical or forensic population	CINAHL
5. Harvard Mental Health Letter February (2000)	Review and not a clinical or forensic population	CINAHL
6. Harvard Mental Health Letter (1991)	Review	CINAHL
7. Day & Doyle (2010)	Review paper	CINAHL
8. Gilbert & Daffern (2010)	Review of theory and practice – not intervention	CINAHL
9. Ringdahl <i>et al.</i> (2008)	LD Population	CINAHL
10. Davidson (2005)	Management of violence – not intervention (reviews the area)	EMBASE
11. Gibbon <i>et al.</i> (2009)	Systematic review	EMBASE
12. Gontkowsky (2002)	Critique of service – not intervention	EMBASE
13. Guerra (1994)	Not clinical or forensic population	EMBASE
14. Timmerman & Emmelkamp (2005)	Theoretical paper	EMBASE
15. Alpert & Spillmann (1997)	Descriptive review of interventions	EMBASE
16. Adler & Shapiro (1973)	Unable to access – not intervention	MEDLINE
17. Alverno (1984)	Unable to access - descriptive	MEDLINE
18. Bach-Y-Rita <i>et al.</i> (1971)	Not clinical or forensic population	MEDLINE
19. Baastians & van der Ploeg (1978)	Symposium – not intervention	MEDLINE
20. Bateman & Fonagy (2010)	Target of intervention no violence	MEDLINE
21. Bell & Fink (2000)	Intervention with children and families	MEDLINE
22. Cullen <i>et al.</i> (2012)	Violence not primary outcome	MEDLINE
23. Davis & Boaster (1988)	Single Case Study	MEDLINE
24. Monopolis & Lion (1984)	Review of managing violence	MEDLINE
25. Polschek & Ross (2010)	Focus on therapeutic alliance	MEDLINE
26. Reid & Gacano (2000)	Review of ASPD	MEDLINE
27. Saad (1983)	Theoretical paper – not intervention	MEDLINE
28. Webersin <i>et al.</i> (1991)	Not intervention	MEDLINE
29. Wong & Gordon (2007)	Review of assessment not intervention	MEDLINE
30. DiPlacido <i>et al.</i> (2006)	Treatment not specific to violence	MEDLINE
31. Abderhalden <i>et al.</i> (2008)	Looking at risk assessment not intervention	PsycINFO
32. Cairns (2005)	Theoretical – not intervention	PsycINFO
33. Polschek <i>et al.</i> (2010)	Reviewing violent cognitions – not intervention	PsycINFO
34. Ronan <i>et al.</i> (2010)	Stage of change analysis-Not intervention	PsycINFO
35. Walker & Bright (2009)	Single Case Study	PsycINFO
36. Minnaar (2010)	No outcome measures	PsycINFO
37. Davidson <i>et al.</i> (2010)	Review	ASSIA
38. McCloskey <i>et al.</i> (2008)	Violence not outcome	ASSIA
39. Scourfield & Dobash (1999)	Review	ASSIA
40. Needham <i>et al.</i> (2004)	Managing violence through staff	Science Direct

Appendix E

Journal of Interpersonal Violence – Manuscript Submission

The *Journal of Interpersonal Violence* is devoted to the study and treatment of victims and perpetrators of interpersonal violence. It provides a forum of discussion of the concerns and activities of professionals and researchers working in domestic violence, child sexual abuse, rape and sexual assault, physical child abuse, and violent crime. With its dual focus on victims and victimizers, the journal will publish material that addresses the causes, effects, treatment, and prevention of all types of violence.

Manuscripts should be submitted electronically to <http://mc.manuscriptcentral.com/jiv> where authors will be required to set up an online account on the SageTrack system powered by ScholarOne. Manuscripts should not exceed 22 typed double-spaced pages, including references, tables, and figures. References must conform to the *Publication Manual of the American Psychological Association* (Sixth Edition). All artwork must be camera-ready. Authors should include their name, affiliation, mailing address, email address, telephone number, and a brief biographical statement on a separate title page. Each manuscript should include an abstract and 3-5 keywords. Submission of a manuscript implies commitment to publish in the journal. Authors submitting manuscripts to the journal should not simultaneously submit them to another journal, nor should manuscripts have been published elsewhere in substantially similar form or with substantially similar content. Authors in doubt about what constitutes prior publication should consult the editor.

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Any further questions can be directed to jiv@u.washington.edu

Appendix F

Ethical Approval



HEADQUARTERS

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Joy McKellor

c/o

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9 April 2013

Dear Joy

PhD Research in SPS

Thank you for your most recent enquiry of 5 April in respect to your PhD research.

Your research proposal was considered at meetings of the Research Access and Ethics Committee in June and August 2011. Changes to the original proposal were requested by the RAEC at the June meeting and these were subsequently favourably reviewed and accepted in August.

Records show that following the August meeting the RAEC questioned further whether you were going to be able to recruit sufficient numbers of genuinely non-violent prisoners and a 'violence continuum' was suggested as a more viable proposition.

The Committee, as with any research project, was concerned about feasibility, logistics and resource demands on establishments. So that demand on resources within SPS could be concentrated and focused, it was proposed to permit access to one establishment and HMP Glenochil agreed to accommodate your study. The population mix in Glenochil (at that time) was more varied which would improve chances of augmenting the non-violent sample.

The Committee also emphasised that the battery of tests to be administered ought to be kept to the absolute minimum necessary for the efficient conduct of the study.

Subsequently, you returned to the RAEC with a request for an extension of the research to another establishment. After due consideration, arrangements were made for you to gain access to HMP Perth in May 2012.

The standard regulations (attached) were sent to you for signature on 29 November 2011 and these continue to be held on file.

The RAEC looks forward to receiving a copy of your completed thesis in due course once it has been appropriately cleared.

Yours sincerely

Dr Jim Carnie

SPS Research

REGULATIONS CONCERNING RESEARCH ACCESS TO PRISON ESTABLISHMENTS FOR THE PURPOSES OF CONDUCTING RESEARCH

All access to prison establishments for the purposes of conducting research is conditional on the researcher(s) agreeing to abide by the undernoted requirements.

1. All data and research material arising out of the study must be dealt with on an anonymous, unattributable and confidential basis. No individual should be named or identified. Researchers must comply with the Data Protection Act (1998).
2. If the study is to involve interviewing of subjects, all such subjects must give voluntary consent and be informed of the purpose of the study; anticipated uses of data; identity of funder(s) (if applicable); and the identity of the interviewer.
3. All research data and material of whatever kind (i.e. interview notes, questionnaires, tapes, transcripts, reports, documents, specifications, instructions, plans, drawings, patents, models, designs, whether in writing or on electronic or other media) obtained from the Scottish Prison Service shall remain the property of the Crown. Information collected during the course of a research project must not be supplied to another party or used for any other purpose other than that agreed to and contained in the original research proposal. All confidential research data obtained from SPS must be destroyed within 12 months of completion of the research project.
4. All researchers must abide by the ethical guidelines of their profession or discipline and must nominate below the guidelines to which they will adhere. (e.g. Social Research Association, British Sociological Association etc.) All researchers must arrange to be Disclosure Scotland cleared.
5. Where appropriate, research proposals may require to be submitted to the Ethics Committee of the local Area Health Board (or MREC) and to receive its approval before access is granted.
6. The Chair of the SPS Research Access and Ethics Committee (RAEC) must be informed in writing and agree to any changes to the project which involve alterations to the essential nature of the agreed work.
7. The Scottish Prison Service reserves the right to terminate access to SPS establishments at any time for any Operational reason that may arise or for any breach by the researcher of the Access Regulations or for any failure on the part of the researcher to conduct the study as agreed with the RAEC. In the event of access being terminated for any reason whatsoever, all data obtained from SPS during the course of the research shall be returned to the Scottish Prison Service.
8. The Scottish Prison Service will not have liability in respect of any loss or damage to the researcher's property or of any personal injury to the researcher which occur within SPS

premises. The researcher (or, if applicable, the researcher's institution or organisation) will be responsible for arranging all relevant personal indemnity to cover the conduct of research within SPS premises.

9. It is a condition of access that a copy of any final report or dissertation or other written output arising from the research MUST be submitted to SPS to be lodged in its Research Library. Any material resulting from access which is intended to be presented publicly must also be submitted to SPS. In principle, the Scottish Prison Service supports the publication and dissemination of research findings arising from approved work, but the Service reserves the right to amend factual inaccuracies.
10. Reports and presentations should be sent to the Chair of the Research Access and Ethics Committee, Analytical Services, SPS Headquarters, Calton House, Redheughs Rigg, Edinburgh EH12 9HW.

Ethical guidelines nominated_____

I have read the above regulations and agree to be bound by them.

_____(Signature)

_____(Date)



A study is being carried out in HMP X by a post graduate clinical psychology student from Edinburgh University to help better understand offending behaviour. The aim is to use the information collected to help further develop the assessment process and intervention programmes people are offered when they are in prison.

The study would involve you filling in some questionnaires which would take about 45 minutes. The researcher would meet you and answer any questions you may have first and then leave you on your own to complete the questionnaires.

The questionnaires will be completely anonymous and used purely for the purpose of this study. The completed questionnaires will be kept confidential and will not be made available to prison staff. The study is completely separate from the prison service and will not in any way affect your personal situation as a prisoner in HMP X.

The researcher will be visiting the prison within the next two weeks to start handing out the questionnaires and will be available to answer any questions then.